



Ref. Certif. No.

JPTUV-045079

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT  
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC

## CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product  
Produit

Switching Power Supply

Name and address of the applicant  
Nom et adresse du demandeur

Winsis Inc. (Shenzhen)  
Block A, Plant Junwei Xin, Tongfu Yu  
Industria Park, Zhenmei Rd., Guangming New District, Shenzhen,  
Guangdong, P.R. China

Name and address of the manufacturer  
Nom et adresse du fabricant

Winsis Inc. (Shenzhen)  
Block A, Plant Junwei Xin, Tongfu Yu  
Industria Park, Zhenmei Rd., Guangming New District, Shenzhen,  
Guangdong, P.R. China

Name and address of the factory  
Nom et adresse de l'usine

Winsis Inc. (Shenzhen)  
Block A, Plant Junwei Xin, Tongfu Yu  
Industria Park, Zhenmei Rd., Guangming New District, Shenzhen,  
Guangdong, P.R. China

Rating and principal characteristics  
Valeurs nominales et caractéristiques principales

Input : AC 115/230V; 50/60Hz; 5A; Class I  
Output: refer to the test report

Trade mark (if any)  
Marque de fabrique (si elle existe)

WINSIS

Model/type Ref.  
Ref. de type

WMS-200SFX, WMS-250SFX

Additional information (if necessary)  
Information complémentaire (si nécessaire)

For model differences, refer to the test report.

A sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à la

IEC 60950-1:2005 + A1  
National differences see test report

As shown in the Test Report Ref. No. which forms part  
of this Certificate  
Comme indiqué dans le Rapport d'essais numéro de  
référence qui constitue une partie de ce Certificat

16041780 001

This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme National de Certification



**TÜVRheinland®**

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Date: 07.08.2012


Signature:

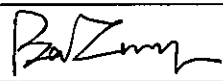
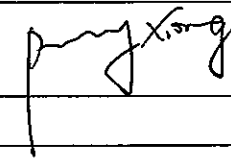
Dipl.-Ing.  Stöckelzel



Test Report issued under the  
responsibility of:



<b>TEST REPORT</b>	
<b>IEC 60950-1</b>	
<b>Information technology equipment – Safety –</b>	
<b>Part 1: General requirements</b>	
<b>Report Number</b> .....	16041780 001
<b>Date of issue</b> .....	Jul. 28, 2012
<b>Total number of pages</b> .....	Total 112 pages
<b>CB Testing Laboratory</b> .....	<b>TÜV Rheinland (Guangdong) Ltd.</b>
<b>Address</b> .....	No.199 Kezhu Road, Guangzhou Science City 510663 Guangzhou China
<b>Applicant's name</b> .....	<b>Winsis Inc. (Shenzhen)</b>
<b>Address</b> .....	Block A, Plant Junwei Xin, Tongfu Yu Industrial Park, Zhenmei Rd. Guangming New District, Shenzhen, P. R. China
<b>Manufacturer's name</b> .....	Same as applicant.
<b>Address</b> .....	Same as applicant.
<b>Test specification:</b>	
<b>Standard</b> .....	IEC 60950-1:2005 (2nd Edition); Am 1:2009
<b>Test procedure</b> .....	CB Scheme
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	IEC60950_1B
<b>Test Report Form(s) Originator</b> .....	SGS Fimko Ltd
<b>Master TRF</b> .....	Dated 2010-04
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If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.	
<b>This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.</b>	
<b>Test item description</b> .....	Switching Power Supply
<b>Trade Mark</b> .....	
<b>Manufacturer</b> .....	Same as applicant
<b>Model/Type reference</b> .....	WMS-200SFX, WMS-250SFX
<b>Ratings</b> .....	Input: 115Vac/230Vac, 50-60Hz, 5A Output: See model list on page 7.

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	<b>TÜV Rheinland (Guangdong) Ltd.</b>
Testing location/ address.....:		No.199 Kezhu Road, Guangzhou Science City 510663 Guangzhou China
<input type="checkbox"/>	<b>Associated CB Laboratory:</b>	N/A
Testing location/ address.....:		N/A
Tested by (name + signature).....:		Ben Zeng 
Approved by (name + signature) .....		Pony Xiong 
<input type="checkbox"/>	<b>Testing procedure: TMP</b>	N/A
Testing location/ address.....:		
Tested by (name + signature).....:		
Approved by (name + signature) .....		
<input type="checkbox"/>	<b>Testing procedure: WMT</b>	N/A
Testing location/ address.....:		
Tested by (name + signature).....:		
Witnessed by (name + signature).....:		
Approved by (name + signature) .....		
<input type="checkbox"/>	<b>Testing procedure: SMT</b>	N/A
Testing location/ address.....:		
Tested by (name + signature).....:		
Approved by (name + signature) .....		
Supervised by (name + signature).....:		
<input type="checkbox"/>	<b>Testing procedure: RMT</b>	N/A
Testing location/ address.....:		
Tested by (name + signature).....:		
Approved by (name + signature) .....		
Supervised by (name + signature).....:		

**List of Attachments (including a total number of pages in each attachment):**

- Attachment: National differences (50 pages)
- Attachment: Photo documentation (15 pages)

**Summary of testing:**
**Tests performed (name of test and test clause):**

- 1.6.2 Input Current Test
- 1.7.11 Durability Of Marking Test
- 2.1.1.5 Energy Hazard In Operator Access Area
- 2.1.1.7 Discharge of capacitor
- 2.2.2 SELV limits For Normal Conditions
- 2.2.3 SELV Limits For Abnormal Conditions
- 2.6.3.4 Resistance of Earthing Circuit
- 2.9.2 Humidity Conditioning
- 2.10.2 Working Voltage Over Insulation
- 2.10.3 Clearance Measurement
- 2.10.4 Creepage Distance Measurement
- 4.2.2 Steady Force Test, 10N
- 4.2.4 Steady Force Test, 250N
- 4.5.2 Maximum Temperature Test
- 4.5.5 Ball Pressure Test
- 5.1.6 Touch Current Test
- 5.2 Electric Strength Test
- 5.3 Fault Condition Test
- Glow wire test

**Note:**

Unless otherwise specified, models WMS-200SFX and WMS-250SFX were selected for these tests. Details see appended clauses and tables.

**Testing location:**
**TÜV Rheinland (Guangdong) Ltd.**

No.199 Kezhu Road, Guangzhou Science City  
510663 Guangzhou China

**Summary of compliance with National Differences**

Summary of compliance with National Differences to IEC 60950-1:2005+A1:2009 and EN 60950-1:2006 + A11:2009 + A1:2010 +A12:2011 (for explanation of codes see below):

EU Group Differences, EU Special National Conditions, CA, CH, DE, DK, FI, GB, IL, KR, SE, SI

Explanation of used codes:

CA=Canada, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland, GB=United Kingdom, IL=Israel, KR= Republic of Korea, SE=Sweden, SI=Slovenia

Summary of compliance with National Differences to IEC 60950-1:2005 (2nd Edition) (for explanation of codes see below):

US.

Explanation of used codes: US=United States of America.

Summary of compliance with National Differences to IEC 60950-1:2001 (1st Edition) (for explanation of codes see below):

AU

Explanation of used codes: AU=Australia

Summary of compliance with National Differences to IEC 60950:1999 (for explanation of codes see below):

CN.

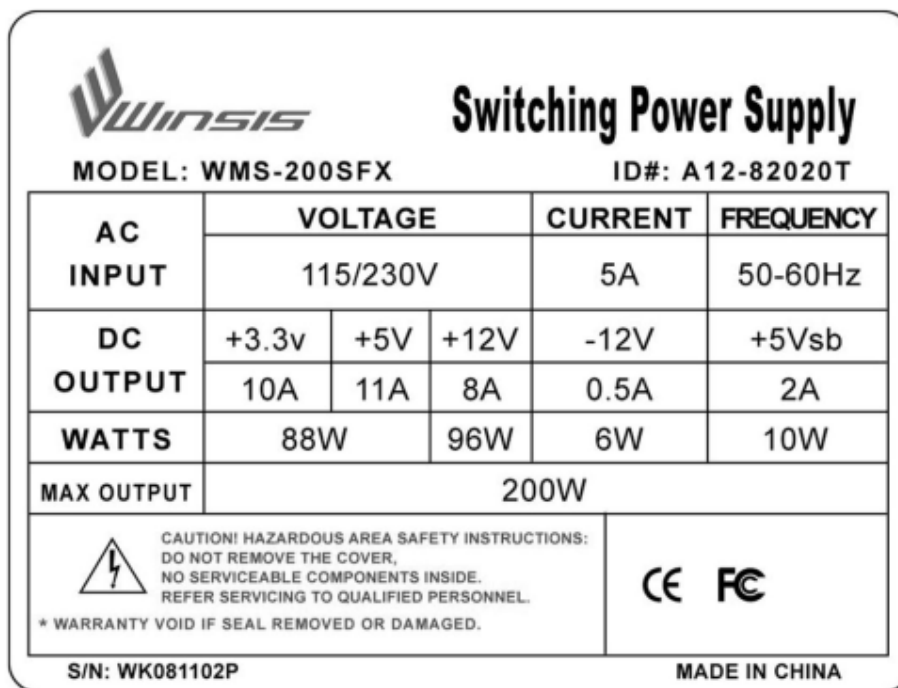
Explanation of used codes: CN=China.

All country differences listed in the CB Bulletin are covered by common Modifications, Special National Conditions, National Deviations and National Requirements noted follows except for the following countries which are documented in Country Differences.

All national differences see corresponding pages.

**Copy of marking plate:**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.








## Switching Power Supply

MODEL: WMS-250SFX

ID#: A12-82525T

AC INPUT	VOLTAGE			CURRENT	FREQUENCY
	115/230V			5A	50-60Hz
DC OUTPUT	+3.3v	+5V	+12V	-12V	+5Vsb
	12A	11A	12A	0.5A	2A
WATTS	95W		144W	6W	10W
MAX OUTPUT	250W				
 CAUTION! HAZARDOUS AREA SAFETY INSTRUCTIONS: DO NOT REMOVE THE COVER, NO SERVICEABLE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL. * WARRANTY VOID IF SEAL REMOVED OR DAMAGED.				 	

S/N: WK081102P

MADE IN CHINA

<b>Test item particulars</b> .....	
Equipment mobility .....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains .....	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition .....	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location .....	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC) .....	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other:
Mains supply tolerance (%) or absolute mains supply values .....	+ 10% / - 10% (as client's request)
Tested for IT power systems .....	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
IT testing, phase-phase voltage (V) .....	N/A
Class of equipment .....	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A) .....	16 or 20 (for North America)
Pollution degree (PD) .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class .....	IPX0
Altitude during operation (m) .....	Up to 2000
Altitude of test laboratory (m) .....	below 2000
Mass of equipment (kg) .....	Approx. 0.83kg
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object ..... : N/A (or N)	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement..... : F (Fail)	
<b>Testing</b> .....	
Date of receipt of test item ..... : Jul., 2012	
Date(s) of performance of tests ..... : Jul., 2012	
<b>General remarks:</b>	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.  Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator. Remark: the samples submitted for evaluation are representative of the products from each factory.	

**Manufacturer's Declaration per sub-clause 6.2.5 of IECEE 02:**

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... ☒ Yes ☐ Not applicable

When differences exist; they shall be identified in the General product information section.

**Name and address of factory (ies)..... Winsis Inc. (Shenzhen)**

Block A, Plant Junwei Xin, Tongfu Yu Industrial Park, Zhenmei Rd. Guangming New District, Shenzhen, P. R. China

**General product information:**
Brief description of the test sample:

1. The equipment models WMS-200SFX, WMS-250SFX were building-in switching power supply for the use in information technology equipment.
2. Specified maximum ambient temperature is 45°C.
3. Pre-production samples without serial numbers.
4. As building-in equipment, some clauses are not considered in this report and should be evaluated in the final system, such as:
  - Resistance to fire should be re-considered in the end system;

**Models difference:**

Both models are similar except for type designation, output rating and electrical rating of some components, details as below:

C1, C2, F1, THR1, BD1, Q1, Q2, R22, DB1, DB2: the parameters of these components depend on output power and output current;

**Model list:**

Model	Input Rating	Outputs Rating (DC, A max)					Combined Power (Wallts)	
		+3.3V	+5V	+12V	-12V	+5Vsb	+5V, +3.3V Power W	Total Power max.W
WMS-200SFX	115Vac/230Vac, 50-60Hz, 5A	10	11	8	0.5	2	88	200
WMS-250SFX		12	11	12	0.5	2	95	250



**Abbreviations used in the report:**

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI
- shorted-circuit	S-C	- opened-circuit	O-C
- over-load	O-L		

Indicate used abbreviations (if any)


IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

<b>1</b>	<b>GENERAL</b>		<b>P</b>
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<b>1.5</b>	<b>Components</b>		<b>P</b>
1.5.1	General	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards.	<b>P</b>
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	<b>P</b>
1.5.2	Evaluation and testing of components	Components which are certified to IEC/EN and /or national standards are used correctly within their ratings. Components not covered by IEC/EN standards are tested under the conditions present in the equipment.	<b>P</b>
1.5.3	Thermal controls		<b>N/A</b>
1.5.4	Transformers	Transformer used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C.	<b>P</b>
1.5.5	Interconnecting cables		<b>N/A</b>
1.5.6	Capacitors bridging insulation	Between the primary circuits and protective earth circuits: capacitors subclass Y2 according to IEC 60384-14.  Between the line and neutral capacitors subclass X2 according to IEC 60384-14.	<b>P</b>
1.5.7	Resistors bridging insulation		<b>P</b>
1.5.7.1	Resistors bridging functional, basic or supplementary insulation	Bleeder resistor (R1) located between L and N after current fuse.	<b>P</b>
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		<b>N/A</b>
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		<b>N/A</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.8	Components in equipment for IT power systems		<b>P</b>
1.5.9	Surge suppressors	No VDR used.	<b>N/A</b>
1.5.9.1	General		<b>N/A</b>
1.5.9.2	Protection of VDRs		<b>N/A</b>
1.5.9.3	Bridging of functional insulation by a VDR		<b>N/A</b>
1.5.9.4	Bridging of basic insulation by a VDR		<b>N/A</b>
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		<b>N/A</b>

<b>1.6</b>	<b>Power interface</b>		<b>P</b>
1.6.1	AC power distribution systems	IT power system for Norway only, TN power system for others	<b>P</b>
1.6.2	Input current	Highest load according to 1.2.2.1 for this equipment is the operation with the max. specified DC-load. (see appended table 1.6.2)	<b>P</b>
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment.	<b>N/A</b>
1.6.4	Neutral conductor	Class I equipment. The neutral is not identified in the equipment. Double or reinforced insulation for rated voltage between accessible parts and primary phases.	<b>P</b>

<b>1.7</b>	<b>Marking and instructions</b>		<b>P</b>
1.7.1	Power rating and identification markings		<b>P</b>
1.7.1.1	Power rating marking	See below	<b>P</b>
	Multiple mains supply connections.....:		<b>N/A</b>
	Rated voltage(s) or voltage range(s) (V) .....	See model list.	<b>P</b>
	Symbol for nature of supply, for d.c. only .....	Mains from AC source	<b>N/A</b>
	Rated frequency or rated frequency range (Hz) .....	50-60Hz	<b>P</b>
	Rated current (mA or A) .....	See model list.	<b>P</b>
1.7.1.2	Identification markings	See below.	<b>P</b>
	Manufacturer's name or trade-mark or identification mark .....	Only trademark "  " is shown on the label	<b>P</b>
	Model identification or type reference .....	See model list.	<b>P</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Symbol for Class II equipment only .....	Class I equipment.	<b>N/A</b>
	Other markings and symbols .....	Additional symbols or marking does not give rise to misunderstanding.	<b>P</b>
1.7.2	Safety instructions and marking	See below	<b>P</b>
1.7.2.1	General	"User's Manual" provided that contains information regarding the maximum ambient temperature.	<b>P</b>
1.7.2.2	Disconnect devices	The appliance inlet is regarded as disconnected device.	<b>N/A</b>
1.7.2.3	Overcurrent protective device	Not such equipment.	<b>N/A</b>
1.7.2.4	IT power distribution systems	Only for Norway.	<b>P</b>
1.7.2.5	Operator access with a tool	No operator accessible area that needs to be accessed by the use of a tool.	<b>N/A</b>
1.2.7.6	Ozone	Not such equipment.	<b>N/A</b>
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	<b>N/A</b>
1.7.4	Supply voltage adjustment .....	No voltage selector.	<b>N/A</b>
	Methods and means of adjustment; reference to installation instructions .....		<b>N/A</b>
1.7.5	Power outlets on the equipment .....	No power outlets provided.	<b>N/A</b>
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....	Marking adjacent to current fuse: F1 T5A/250V (for 200W) F1 T6.3A/250V (for 250W)	<b>P</b>
1.7.7	Wiring terminals	See below.	<b>P</b>
1.7.7.1	Protective earthing and bonding terminals .....	Appliance inlet is provided. The symbol IEC 60417-5019 was located on appliance inlet.  Protective bonding terminal marking is shown adjacent to screw according to IEC 60417-1-IEC-5017.	<b>P</b>
1.7.7.2	Terminals for a.c. mains supply conductors	Appliance inlet provided.	<b>N/A</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7.3	Terminals for d.c. mains supply conductors	No d.c. mains supply.	<b>N/A</b>
1.7.8	Controls and indicators		<b>P</b>
1.7.8.1	Identification, location and marking .....		<b>N/A</b>
1.7.8.2	Colours .....		<b>N/A</b>
1.7.8.3	Symbols according to IEC 60417 .....		<b>N/A</b>
1.7.8.4	Markings using figures .....		<b>N/A</b>
1.7.9	Isolation of multiple power sources .....	Only one supply from the mains.	<b>N/A</b>
1.7.10	Thermostats and other regulating devices .....	No such components provided.	<b>N/A</b>
1.7.11	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	<b>P</b>
1.7.12	Removable parts	No removable part.	<b>N/A</b>
1.7.13	Replaceable batteries .....	No battery provided.	<b>N/A</b>
	Language(s) .....		—
1.7.14	Equipment for restricted access locations.....	Not intended for use in restricted access locations.	<b>N/A</b>

<b>2</b>	<b>PROTECTION FROM HAZARDS</b>		<b>P</b>
2.1	Protection from electric shock and energy hazards		<b>P</b>
2.1.1	Protection in operator access areas	No access with test finger and test pin to any parts with only basic insulation to ELV or hazardous voltage.	<b>P</b>
2.1.1.1	Access to energized parts	See above.	<b>P</b>
	Test by inspection .....	See above.	<b>P</b>
	Test with test finger (Figure 2A) .....	See above.	<b>P</b>
	Test with test pin (Figure 2B) .....	See above.	<b>P</b>
	Test with test probe (Figure 2C) .....	No TNV.	<b>N/A</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.1.2	Battery compartments	No battery compartment.	<b>N/A</b>
2.1.1.3	Access to ELV wiring	No ELV wiring in operator accessible area.	<b>N/A</b>
	Working voltage (V <sub>peak</sub> or V <sub>rms</sub> ); minimum distance through insulation (mm)	(see appended tables 2.10.2 and 2.10.5)	—
2.1.1.4	Access to hazardous voltage circuit wiring	No hazardous voltage wiring in operator accessible area.	<b>N/A</b>
2.1.1.5	Energy hazards .....	Energy does not exceed 240VA between any two points in accessible parts (o/p connector of secondary circuit). Results see appended table 2.1.1.5. No energy hazard in operator access area.  See appended table for reference.	<b>P</b>
2.1.1.6	Manual controls	No manual controls.	<b>N/A</b>
2.1.1.7	Discharge of capacitors in equipment	No risk of electric shock, see below.	<b>P</b>
	Measured voltage (V); time-constant (s) .....	(See appended table)	—
2.1.1.8	Energy hazards – d.c. mains supply	Connected to a.c. mains.	<b>N/A</b>
	a) Capacitor connected to the d.c. mains supply ..		<b>N/A</b>
	b) Internal battery connected to the d.c. mains supply .....		<b>N/A</b>
2.1.1.9	Audio amplifiers .....	Not such equipment.	<b>N/A</b>
2.1.2	Protection in service access areas	Compliance shall be evaluated for the final system.	<b>N/A</b>
2.1.3	Protection in restricted access locations	Not limited for use in restricted access locations.	<b>N/A</b>

<b>2.2</b>	<b>SELV circuits</b>		<b>P</b>
2.2.1	General requirements	The secondary circuits were tested as SELV. See 2.2.1 to 2.2.4.	<b>P</b>
2.2.2	Voltages under normal conditions (V) .....	Between any conductors of the SELV circuits 42.4 V peak or 60 V d.c. are not exceeded.  See appended table 2.2.2.	<b>P</b>

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

2.2.3	Voltages under fault conditions (V) .....	Single fault did not cause excessive voltage in accessible SELV circuits. Limits of 71V peak and 120V d.c. were not exceeded within 0.2 seconds and limits 42.4V peak and 60V d.c. were not exceeded for longer than 0.2 seconds.	<b>P</b>
2.2.4	Connection of SELV circuits to other circuits .....	See 2.2.2 and 2.2.3.	<b>P</b>

<b>2.3</b>	<b>TNV circuits</b>		<b>N/A</b>
2.3.1	Limits	No TNV circuit.	<b>N/A</b>
	Type of TNV circuits .....		—
2.3.2	Separation from other circuits and from accessible parts		<b>N/A</b>
2.3.2.1	General requirements		<b>N/A</b>
2.3.2.2	Protection by basic insulation		<b>N/A</b>
2.3.2.3	Protection by earthing		<b>N/A</b>
2.3.2.4	Protection by other constructions .....		<b>N/A</b>
2.3.3	Separation from hazardous voltages		<b>N/A</b>
	Insulation employed.....		—
2.3.4	Connection of TNV circuits to other circuits		<b>N/A</b>
	Insulation employed.....		—
2.3.5	Test for operating voltages generated externally		<b>N/A</b>

<b>2.4</b>	<b>Limited current circuits</b>		<b>N/A</b>
2.4.1	General requirements		<b>N/A</b>
2.4.2	Limit values		<b>N/A</b>
	Frequency (Hz).....		—
	Measured current (mA) .....		—
	Measured voltage (V) .....		—
	Measured circuit capacitance (nF or $\mu$ F).....		—
2.4.3	Connection of limited current circuits to other circuits		<b>N/A</b>

<b>2.5</b>	<b>Limited power sources</b>		<b>N/A</b>
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Clause	Requirement + Test	Result - Remark	Verdict
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....		—
	Current rating of overcurrent protective device (A) .:		—
	Use of integrated circuit (IC) current limiters		—

<b>2.6</b>	<b>Provisions for earthing and bonding</b>		<b>P</b>
2.6.1	Protective earthing	Green/yellow wire is connected from PE pin of appliance inlet to metal chassis.  Green/Yellow wire is fixed reliably on the metal chassis with ring terminal, star washer and screw.	<b>P</b>
2.6.2	Functional earthing	Secondary functional ground separated to primary by reinforced or double insulation.	<b>P</b>
2.6.3	Protective earthing and protective bonding conductors	See below.	<b>P</b>
2.6.3.1	General	See below.	<b>P</b>
2.6.3.2	Size of protective earthing conductors	No power cord provided.	N/A
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
2.6.3.3	Size of protective bonding conductors	See 2.6.3.4.	<b>P</b>
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
	Protective current rating (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) .....	0.01Ω, 32A, 2 min 0.02Ω, 40A, 2 min	<b>P</b>
2.6.3.5	Colour of insulation.....	See sub clause 2.6.1.	<b>P</b>
2.6.4	Terminals	See below.	<b>P</b>
2.6.4.1	General	See below.	<b>P</b>
2.6.4.2	Protective earthing and bonding terminals	The PE pin of appliance inlet is considered as protective earthing terminal.	<b>P</b>



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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A), type, nominal thread diameter (mm) .....		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing	Compliance shall be evaluated for the final system.	N/A
2.6.5.1	Interconnection of equipment	This unit has its own protective earthing/bonding connection. Any other units connected via the DC output connector shall provide SELV only.	P
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switch or overcurrent protective device provided in earthing conductors and protective bonding conductors.	P
2.6.5.3	Disconnection of protective earth	Complied.	P
2.6.5.4	Parts that can be removed by an operator	Type C14 appliance inlet used, therefore the earth connection is made before and broken after the hazardous voltage. No operator removable parts.	P
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance	No combination above the line in annex J is used.	P
2.6.5.7	Screws for protective bonding	No self-tapping screws are used. For the earth connection to the metal chassis a washer and a screw are used.	P
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV	N/A

<b>2.7</b>	<b>Overcurrent and earth fault protection in primary circuits</b>		<b>P</b>
2.7.1	Basic requirements	Protection against overcurrents and short-circuits is provided as an integral part of the equipment. Protection against earth faults is provided as part of the building installation.	P
	Instructions when protection relies on building installation	Not applicable for pluggable equipment type A.	N/A
2.7.2	Faults not simulated in 5.3.7	The protection device is well dimensioned and mounted.	P

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Clause	Requirement + Test	Result - Remark	Verdict

2.7.3	Short-circuit backup protection	Pluggable equipment type A. Building installation is considered as providing short-circuit backup protection.	<b>P</b>
2.7.4	Number and location of protective devices .....	Over current protection by one current fuse.	<b>P</b>
2.7.5	Protection by several devices	Only one current fuse.	<b>N/A</b>
2.7.6	Warning to service personnel.....:	No service work necessary.	<b>N/A</b>

<b>2.8</b>	<b>Safety interlocks</b>		<b>N/A</b>
2.8.1	General principles	No safety interlocks.	<b>N/A</b>
2.8.2	Protection requirements		<b>N/A</b>
2.8.3	Inadvertent reactivation		<b>N/A</b>
2.8.4	Fail-safe operation		<b>N/A</b>
	Protection against extreme hazard		<b>N/A</b>
2.8.5	Moving parts		<b>N/A</b>
2.8.6	Overriding		<b>N/A</b>
2.8.7	Switches, relays and their related circuits		<b>N/A</b>
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....		<b>N/A</b>
2.8.7.2	Overload test		<b>N/A</b>
2.8.7.3	Endurance test		<b>N/A</b>
2.8.7.4	Electric strength test		<b>N/A</b>
2.8.8	Mechanical actuators		<b>N/A</b>

<b>2.9</b>	<b>Electrical insulation</b>		<b>P</b>
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic material are not used.	<b>P</b>
2.9.2	Humidity conditioning	120 h (based on client' request, also conducted for opto-coupler , type PS2561 Series)	<b>P</b>
	Relative humidity (%), temperature (°C) .....	93%RH, 40°C	—
2.9.3	Grade of insulation	Insulation complies with sub-clauses 2.10, 4.5.1 and 5.2.	<b>P</b>
2.9.4	Separation from hazardous voltages	The secondary circuit is separated from hazardous voltages by reinforce insulation.	<b>P</b>

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Clause	Requirement + Test	Result - Remark	Verdict

	Method(s) used .....	Method 1 used.	—
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<b>2.10</b>	<b>Clearances, creepage distances and distances through insulation</b>		<b>P</b>
2.10.1	General	See 2.10.3, 2.10.4 and 2.10.5.	<b>P</b>
2.10.1.1	Frequency .....		<b>P</b>
2.10.1.2	Pollution degrees .....	2	<b>P</b>
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	<b>N/A</b>
2.10.1.4	Intervening unconnected conductive parts	No such part.	<b>N/A</b>
2.10.1.5	Insulation with varying dimensions	No such transformer used.	<b>N/A</b>
2.10.1.6	Special separation requirements	No TNV	<b>N/A</b>
2.10.1.7	Insulation in circuits generating starting pulses	No such circuit.	<b>N/A</b>
2.10.2	Determination of working voltage	The rms and the peak voltage were measured on the EUT.  The unit was connected to a 240Vac power supply and floating secondary circuits was assumed to be earthed at the point by which the highest working voltage is obtained.  (Results see appended table 2.10.2)	<b>P</b>
2.10.2.1	General	See above.	<b>P</b>
2.10.2.2	RMS working voltage	(Results see appended table 2.10.2)	<b>P</b>
2.10.2.3	Peak working voltage	(Results see appended table 2.10.2)	<b>P</b>
2.10.3	Clearances	See below and advantage of annex G is not considered.	<b>P</b>
2.10.3.1	General	See below, Annex G was not considered.	<b>P</b>
2.10.3.2	Mains transient voltages	See below	<b>P</b>
	a) AC mains supply .....	Normal transient voltage considered (overvoltage category II for primary circuit).	<b>P</b>
	b) Earthed d.c. mains supplies .....	AC mains	<b>N/A</b>
	c) Unearthed d.c. mains supplies .....		<b>N/A</b>
	d) Battery operation .....		<b>N/A</b>
2.10.3.3	Clearances in primary circuits	Annex F and minimum clearances considered. (see appended table 2.10.3 and 2.10.4)	<b>P</b>

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.4	Clearances in secondary circuits	See 5.3.4.	<b>P</b>
2.10.3.5	Clearances in circuits having starting pulses	No such circuit	<b>N/A</b>
2.10.3.6	Transients from a.c. mains supply .....	See 2.10.3.2.	<b>N/A</b>
2.10.3.7	Transients from d.c. mains supply .....		<b>N/A</b>
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....	No TNV circuit	<b>N/A</b>
2.10.3.9	Measurement of transient voltage levels	See 2.10.3.6.	<b>N/A</b>
	a) Transients from a mains supply		<b>N/A</b>
	For an a.c. mains supply .....		<b>N/A</b>
	For a d.c. mains supply .....		<b>N/A</b>
	b) Transients from a telecommunication network :		<b>N/A</b>
2.10.4	Creepage distances	See below	<b>P</b>
2.10.4.1	General	(see appended table 2.10.3 and 2.10.4)	<b>P</b>
2.10.4.2	Material group and comparative tracking index		<b>P</b>
	CTI tests .....	CTI rating for all materials of min. 100.	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	<b>P</b>
2.10.5	Solid insulation		<b>P</b>
2.10.5.1	General	See below.	<b>P</b>
2.10.5.2	Distances through insulation	Opto-coupler provided. (see appended table 2.10.5)	<b>P</b>
2.10.5.3	Insulating compound as solid insulation	No such component.	<b>N/A</b>
2.10.5.4	Semiconductor devices	No such component.	<b>N/A</b>
2.10.5.5	Cemented joints	No such construction.	<b>N/A</b>
2.10.5.6	Thin sheet material – General	Insulation tapes provided reinforced insulation used in T1, T2 (between the primary and secondary windings), detail appended table 2.10.3 and 2.10.4.	<b>P</b>
2.10.5.7	Separable thin sheet material		<b>P</b>
	Number of layers (pcs) .....	<ul style="list-style-type: none"> <li>- At least two layers of insulation tape used between primary and secondary of transformers (T1, T2) as reinforced insulation.</li> <li>- At least two layers of insulation tape covered heatsink (SH1) as reinforced insulation.</li> </ul>	—

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.8	Non-separable thin sheet material	Not such marterial	N/A
2.10.5.9	Thin sheet material – standard test procedure	See 2.10.5.10.	N/A
	Electric strength test	(see appended table 2.10.5)	—
2.10.5.10	Thin sheet material – alternative test procedure	Electric strength test applied to each layer.	P
	Electric strength test	(See appended table 5.2)	—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage .....		N/A
	a) Basic insulation not under stress .....		N/A
	b) Basic, supplemetary, reinforced insulation .....		N/A
	c) Compliance with Annex U .....		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....		N/A
2.10.5.13	Wire with solvent-based enamel in wound components	No such construction.	N/A
	Electric strength test		—
	Routine test		
2.10.5.14	Additional insulation in wound components	No such construction.	N/A
	Working voltage .....		N/A
	- Basic insulation not under stress .....		N/A
	- Supplemetary, reinforced insulation .....		N/A
2.10.6	Construction of printed boards	See below.	P
2.10.6.1	Uncoated printed boards	(see appended table 2.10.3 and 2.10.4)	P
2.10.6.2	Coated printed boards	No coated printed boards.	N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) .....		N/A
2.10.7	Component external terminations	(see appended table 2.10.3 and 2.10.4)	P
2.10.8	Tests on coated printed boards and coated components	No such boards and componets	N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test	(see appended table 5.2)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts	No hermetically sealed component.	N/A

<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		<b>P</b>
3.1	General		<b>P</b>
3.1.1	Current rating and overcurrent protection	All internal wires are UL recognized wiring which is PVC insulated, rated VW-1, min. 80 °C, 300 V, the wiring gauge is suitable for current intended to be carried.  Internal wiring for primary power distribution protected by built-in fuse.	<b>P</b>
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges, which could damage the insulation and cause hazard.	<b>P</b>
3.1.3	Securing of internal wiring	The wires are secured by soldering and glue (on PCB) so that a loosening of the terminal connection is unlikely.	<b>P</b>
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation material see 3.1.1.	<b>P</b>
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws provided.	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	<b>P</b>
3.1.8	Self-tapping and spaced thread screws	Not used.	N/A
3.1.9	Termination of conductors	All conductors are reliable secured.	<b>P</b>
	10 N pull test	Force of 10 N applied to the termination points of the conductors.	<b>P</b>
3.1.10	Sleeving on wiring		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>3.2</b>	<b>Connection to a mains supply</b>		<b>P</b>
3.2.1	Means of connection		<b>P</b>
3.2.1.1	Connection to an a.c. mains supply		<b>P</b>
3.2.1.2	Connection to a d.c. mains supply	AC Source	<b>N/A</b>
3.2.2	Multiple supply connections	Only one supply connection.	<b>N/A</b>
3.2.3	Permanently connected equipment	Not permanently connected equipment.	<b>N/A</b>
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets		<b>P</b>
3.2.5	Power supply cords	No power cord provided.	<b>N/A</b>
3.2.5.1	AC power supply cords		<b>N/A</b>
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords	AC Source.	<b>N/A</b>
3.2.6	Cord anchorages and strain relief	Appliance inlet used.	<b>N/A</b>
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage		<b>N/A</b>
3.2.8	Cord guards		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict
	Diameter or minor dimension D (mm); test mass (g) .....		—
	Radius of curvature of cord (mm) .....		—
3.2.9	Supply wiring space	Not permanent connection or non-detachable power cord type.	N/A

<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		<b>N/A</b>
3.3.1	Wiring terminals	No wiring terminals for connection of external conductors provided.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ) .....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

<b>3.4</b>	<b>Disconnection from the mains supply</b>		<b>P</b>
3.4.1	General requirement	Disconnect device provided.	P
3.4.2	Disconnect devices	See sub-clause 1.7.2.2.	P
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	There is no parts remained with hazardous voltage or energy in the equipment when SPS is separated from AC mains.	P
3.4.5	Switches in flexible cords	No such flexible cords.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	The appliance inlet disconnects both poles simultaneously.	P
3.4.7	Number of poles - three-phase equipment	Single phase equipment.	N/A
3.4.8	Switches as disconnect devices	See sub-clause 1.7.2.2..	N/A
3.4.9	Plugs as disconnect devices	See sub-clause 3.4.2.	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
3.4.10	Interconnected equipment	No interconnections using hazardous voltages.	<b>N/A</b>
3.4.11	Multiple power sources	Only one supply connection provided.	<b>N/A</b>

<b>3.5</b>	<b>Interconnection of equipment</b>		<b>P</b>
3.5.1	General requirements	This power supply is not considered for connection to TNV.	<b>P</b>
3.5.2	Types of interconnection circuits .....	Interconnection circuits of SELV through the connector. No ELV interconnection circuits.	<b>P</b>
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection	<b>N/A</b>
3.5.4	Data ports for additional equipment	No such ports	<b>N/A</b>

<b>4</b>	<b>PHYSICAL REQUIREMENTS</b>		<b>P</b>
4.1	Stability		<b>N/A</b>
	Angle of 10°	Built-in equipment.	<b>N/A</b>
	Test force (N) .....		<b>N/A</b>

<b>4.2</b>	<b>Mechanical strength</b>		<b>P</b>
4.2.1	General	<p>Evaluated for the front panel side of unit only.</p> <p>After tests, the parts of unit complies with the requirements of sub-clause 2.1.1, 2.6.1, and 2.10.</p> <p>However, the equipment is for building-in, compliance have to evaluated in the final system.</p>	<b>P</b>
	Rack-mounted equipment.		<b>N/A</b>
4.2.2	Steady force test, 10 N	10 N applied to all components other than enclosure.	<b>P</b>
4.2.3	Steady force test, 30 N	30 N force applied to the metal chassis of unit, no hazards.	<b>P</b>

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.4	Steady force test, 250 N	250N force applied to the metal chassis with inlet side, no damaged. The equipment is for building-in, compliance have to evaluated in the final system.	N/A
4.2.5	Impact test	Impact force applied to front metal chassis near AC Inlet, No hazards as result after test. The equipment is for building-in, compliance have to evaluated in the final system.	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) .....		N/A
4.2.7	Stress relief test	Metal chassis.	N/A
4.2.8	Cathode ray tubes	No CRT provided.	N/A
	Picture tube separately certified .....		N/A
4.2.9	High pressure lamps	No high-pressure lamps provided.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....	Not wall or ceiling mounted equipment.	N/A
4.2.11	Rotating solid media		N/A
	Test to cover on the door.....		N/A

<b>4.3</b>	<b>Design and construction</b>		<b>P</b>
4.3.1	Edges and corners	All edges and corners are rounded and /or smoothed.	P
4.3.2	Handles and manual controls; force (N) .....		N/A
4.3.3	Adjustable controls	No controls provided.	N/A
4.3.4	Securing of parts	No connection likely to be exposed to mechanical stress is provided in unit.	P
4.3.5	Connection by plugs and sockets	No mismatching of connectors, plugs or sockets possible.	P
4.3.6	Direct plug-in equipment	Equipment is not direct plug-in type.	N/A
	Torque .....		—
	Compliance with the relevant mains plug standard :		N/A
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.8	Batteries	No batteries provided.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No heating elements provided.	N/A
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N/A
4.3.12	Flammable liquids .....	No such flammable liquid.	N/A
	Quantity of liquid (l) .....		N/A
	Flash point (°C) .....		N/A
4.3.13	Radiation		N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg) .....		—
	Measured high-voltage (kV) .....		—
	Measured focus voltage (kV) .....		—
	CRT markings .....		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification .....		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs		N/A
4.3.13.5.1	Lasers (including laser laser diodes)		N/A
	Laser class .....		—
4.3.13.5.2	Light emitting diodes (LEDs)		N/A
4.3.13.6	Other types .....		N/A

<b>4.4</b>	<b>Protection against hazardous moving parts</b>		<b>P</b>
4.4.1	General	See below.	<b>P</b>
4.4.2	Protection in operator access areas .....	DC fans are protected by a metal cover and the openings that prevent the test finger from entering.	<b>P</b>

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Clause	Requirement + Test	Result - Remark	Verdict
	Household and home/office document/media shredders		<b>N/A</b>
4.4.3	Protection in restricted access locations .....		<b>N/A</b>
4.4.4	Protection in service access areas		<b>N/A</b>
4.4.5	Protection against moving fan blades	See below	<b>P</b>
4.4.5.1	General	The test finger cannot touch the blades of DC fan.	<b>P</b>
	Not considered to cause pain or injury. a).....:		<b>N/A</b>
	Is considered to cause pain, not injury. b) .....		<b>N/A</b>
	Considered to cause injury. c) .....		<b>N/A</b>
4.4.5.2	Protection for users	The test finger cannot touch the blades of DC fan.	<b>N/A</b>
	Use of symbol or warning .....		<b>N/A</b>
4.4.5.3	Protection for service persons		<b>N/A</b>
	Use of symbol or warning .....		<b>N/A</b>

<b>4.5</b>	<b>Thermal requirements</b>		<b>P</b>
4.5.1	General	See below	<b>P</b>
4.5.2	Temperature tests	(See appended table 4.5)	<b>P</b>
	Normal load condition per Annex L .....	(See appended table 1.6.2)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	<b>P</b>
4.5.4	Touch temperature limits	(see appended table 4.5)	<b>P</b>
4.5.5	Resistance to abnormal heat .....	(see appended table 4.5.5)	<b>P</b>

<b>4.6</b>	<b>Openings in enclosures</b>		<b>N/A</b>
4.6.1	Top and side openings	This equipment is for building-in. Compliance shall be evaluated after installation into the final system.	<b>N/A</b>
	Dimensions (mm) .....		—
4.6.2	Bottoms of fire enclosures		<b>N/A</b>
	Construction of the bottom, dimensions (mm) ...:		—
4.6.3	Doors or covers in fire enclosures		<b>N/A</b>
4.6.4	Openings in transportable equipment		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) .....		—

<b>4.7</b>	<b>Resistance to fire</b>		<b>P</b>
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	<b>P</b>
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	<b>P</b>
	Method 2, application of all of simulated fault condition tests		<b>N/A</b>
4.7.2	Conditions for a fire enclosure	See below.	<b>P</b>
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: <ul style="list-style-type: none"> <li>▪ Components in primary</li> <li>▪ Components in secondary</li> <li>▪ Components having unenclosed arcing parts at hazardous voltage or energy level</li> <li>▪ Insulated wiring</li> </ul> The fire enclosure is required.	<b>P</b>
4.7.2.2	Parts not requiring a fire enclosure		<b>N/A</b>
4.7.3	Materials		<b>P</b>
4.7.3.1	General	Parts mounted on PCB of flammability class V-1 or better.	<b>P</b>
4.7.3.2	Materials for fire enclosures	The metal enclosure.	<b>P</b>
4.7.3.3	Materials for components and other parts outside fire enclosures	No part outside fire enclosure.	<b>N/A</b>
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2 or better.	<b>P</b>
4.7.3.5	Materials for air filter assemblies	No air filters provided.	<b>N/A</b>
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict
<b>5</b>	<b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b>		<b>P</b>
<b>5.1</b>	<b>Touch current and protective conductor current</b>		<b>P</b>
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	<b>P</b>
5.1.2	Configuration of equipment under test (EUT)	EUT has only one mains connection.	<b>P</b>
5.1.2.1	Single connection to an a.c. mains supply		<b>P</b>
5.1.2.2	Redundant multiple connections to an a.c. mains supply		<b>N/A</b>
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		<b>N/A</b>
5.1.3	Test circuit	Equipment of figure 5A used.	<b>P</b>
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	<b>P</b>
5.1.5	Test procedure	The touch current was measured from mains to DC output connector and metal enclosure accessible parts (metal enclosure).	<b>P</b>
5.1.6	Test measurements	See below.	<b>P</b>
	Supply voltage (V) .....	(See appended table 5.1.6)	—
	Measured touch current (mA) .....	(See appended table 5.1.6)	—
	Max. allowed touch current (mA) .....	(See appended table 5.1.6)	—
	Measured protective conductor current (mA) .....		—
	Max. allowed protective conductor current (mA) ...		—
5.1.7	Equipment with touch current exceeding 3,5 mA	Neither stationary permanently connected equipment nor stationary pluggable equipment type B.	<b>N/A</b>
5.1.7.1	General .....		<b>N/A</b>
5.1.7.2	Simultaneous multiple connections to the supply		<b>N/A</b>
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No TNV.	<b>N/A</b>
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		<b>N/A</b>
	Supply voltage (V) .....		—
	Measured touch current (mA) .....		—
	Max. allowed touch current (mA) .....		—
5.1.8.2	Summation of touch currents from telecommunication networks		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict

	a) EUT with earthed telecommunication ports ..... :		<b>N/A</b>
	b) EUT whose telecommunication ports have no reference to protective earth		<b>N/A</b>

<b>5.2</b>	<b>Electric strength</b>		<b>P</b>
5.2.1	General	(see appended table 5.2)	<b>P</b>
5.2.2	Test procedure	(see appended table 5.2)	<b>P</b>

<b>5.3</b>	<b>Abnormal operating and fault conditions</b>		<b>P</b>
5.3.1	Protection against overload and abnormal operation	Output overload test, the most unfavorable load test. (see appended table 5.3)	<b>P</b>
5.3.2	Motors	Approved DC fan used.	<b>N/A</b>
5.3.3	Transformers	With the shorted o/p of the transformer, no high temperature of the transformer was recorded.  Results of the short-circuit tests see appended table 5.3 and Annex C.	<b>P</b>
5.3.4	Functional insulation..... :	Method c). Test results see appended table 5.3.	<b>P</b>
5.3.5	Electromechanical components	No electromechanical component provided.	<b>N/A</b>
5.3.6	Audio amplifiers in ITE ..... :	No such component.	<b>N/A</b>
5.3.7	Simulation of faults	Results see appended table.	<b>P</b>
5.3.8	Unattended equipment	None of the listed components was provided.	<b>N/A</b>
5.3.9	Compliance criteria for abnormal operating and fault conditions	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary to SELV was passed.	<b>P</b>
5.3.9.1	During the tests		<b>P</b>
5.3.9.2	After the tests		<b>P</b>

<b>6</b>	<b>CONNECTION TO TELECOMMUNICATION NETWORKS</b>		<b>N/A</b>
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		<b>N/A</b>
6.1.1	Protection from hazardous voltages		<b>N/A</b>
6.1.2	Separation of the telecommunication network from earth		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict

6.1.2.1	Requirements	No TNV.	N/A
	Supply voltage (V) .....		—
	Current in the test circuit (mA) .....		—
6.1.2.2	Exclusions .....		N/A

<b>6.2</b>	<b>Protection of equipment users from overvoltages on telecommunication networks</b>		<b>N/A</b>
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

<b>6.3</b>	<b>Protection of the telecommunication wiring system from overheating</b>		<b>N/A</b>
	Max. output current (A) .....		—
	Current limiting method .....		—

<b>7</b>	<b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b>		<b>N/A</b>
7.1	General	Not connected to cable distribution system	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
<b>A</b>	<b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		<b>N/A</b>
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		<b>N/A</b>
A.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C) .....		<b>N/A</b>
A.1.3	Mounting of samples .....		<b>N/A</b>
A.1.4	Test flame (see IEC 60695-11-3)		<b>N/A</b>
	Flame A, B, C or D .....		—
A.1.5	Test procedure		<b>N/A</b>
A.1.6	Compliance criteria		<b>N/A</b>
	Sample 1 burning time (s) .....		—
	Sample 2 burning time (s) .....		—
	Sample 3 burning time (s) .....		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		<b>N/A</b>
A.2.1	Samples, material.....:		—
	Wall thickness (mm).....:		—
A.2.2	Conditioning of samples; temperature (°C) .....		<b>N/A</b>
A.2.3	Mounting of samples .....		<b>N/A</b>
A.2.4	Test flame (see IEC 60695-11-4)		<b>N/A</b>
	Flame A, B or C .....		—
A.2.5	Test procedure		<b>N/A</b>
A.2.6	Compliance criteria		<b>N/A</b>
	Sample 1 burning time (s) .....		—
	Sample 2 burning time (s) .....		—
	Sample 3 burning time (s) .....		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		<b>N/A</b>
	Sample 1 burning time (s) .....		—
	Sample 2 burning time (s) .....		—
	Sample 3 burning time (s) .....		—
A.3	Hot flaming oil test (see 4.6.2)		<b>N/A</b>
A.3.1	Mounting of samples		<b>N/A</b>
A.3.2	Test procedure		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict

A.3.3	Compliance criterion		N/A
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<b>B</b>	<b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b>		<b>N/A</b>
B.1	General requirements	Approved DC fan used	N/A
	Position .....		—
	Manufacturer .....		—
	Type .....		—
	Rated values .....		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) .....		—
	Electric strength test: test voltage (V) .....		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) .....		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) .....		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) .....		—

<b>C</b>	<b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b>		<b>P</b>
	Position .....	See appended table 1.5.1	—
	Manufacturer .....	See appended table 1.5.1	—

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Clause	Requirement + Test	Result - Remark	Verdict

	Type .....	See appended table 1.5.1	—
	Rated values .....	Class B	—
	Method of protection.....	By protection circuit design.	—
C.1	Overload test	See appended table 5.3.	<b>P</b>
C.2	Insulation	See appended table	<b>P</b>
	Protection from displacement of windings .....	By insulation tape.	<b>P</b>

<b>D</b>	<b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b>		<b>P</b>
D.1	Measuring instrument		<b>P</b>
D.2	Alternative measuring instrument		<b>N/A</b>

<b>E</b>	<b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b>		<b>N/A</b>
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<b>F</b>	<b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b>		<b>P</b>
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<b>G</b>	<b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b>		<b>N/A</b>
G.1	Clearances		<b>N/A</b>
G.1.1	General		<b>N/A</b>
G.1.2	Summary of the procedure for determining minimum clearances		<b>N/A</b>
G.2	Determination of mains transient voltage (V)		<b>N/A</b>
G.2.1	AC mains supply .....		<b>N/A</b>
G.2.2	Earthed d.c. mains supplies .....		<b>N/A</b>
G.2.3	Unearthed d.c. mains supplies .....		<b>N/A</b>
G.2.4	Battery operation .....		<b>N/A</b>
G.3	Determination of telecommunication network transient voltage (V) .....		<b>N/A</b>
G.4	Determination of required withstand voltage (V)		<b>N/A</b>
G.4.1	Mains transients and internal repetitive peaks .....		<b>N/A</b>
G.4.2	Transients from telecommunication networks .....		<b>N/A</b>
G.4.3	Combination of transients		<b>N/A</b>
G.4.4	Transients from cable distribution systems		<b>N/A</b>
G.5	Measurement of transient voltages (V)		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....		N/A

<b>H</b>	<b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b>	<b>N/A</b>
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used .....	No risk of corrosion.	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....:		N/A
K.3	Thermostat endurance test; operating voltage (V) .....:		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction	No telephone signal.	N/A
M.2	Method A		N/A
M.3	Method B		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz) .....		—
M.3.1.2	Voltage (V) .....		—
M.3.1.3	Cadence; time (s), voltage (V) .....		—
M.3.1.4	Single fault current (mA) .....		—
M.3.2	Tripping device and monitoring voltage .....		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....		N/A
<b>N</b>	<b>ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)</b>		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
<b>P</b>	<b>ANNEX P, NORMATIVE REFERENCES</b>		—
<b>Q</b>	<b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>		N/A
	a) Preferred climatic categories .....	No VDR.used.	N/A
	b) Maximum continuous voltage .....		N/A
	c) Pulse current .....		N/A
<b>R</b>	<b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
<b>S</b>	<b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>T</b>	<b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>		<b>N/A</b>
			—
<b>U</b>	<b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>		<b>N/A</b>
			—
<b>V</b>	<b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>		<b>P</b>
V.1	Introduction		<b>P</b>
V.2	TN power distribution systems		<b>P</b>
<b>W</b>	<b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>		<b>N/A</b>
W.1	Touch current from electronic circuits		<b>N/A</b>
W.1.1	Floating circuits		<b>N/A</b>
W.1.2	Earthed circuits		<b>N/A</b>
W.2	Interconnection of several equipments		<b>N/A</b>
W.2.1	Isolation		<b>N/A</b>
W.2.2	Common return, isolated from earth		<b>N/A</b>
W.2.3	Common return, connected to protective earth		<b>N/A</b>
<b>X</b>	<b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b>		<b>N/A</b>
X.1	Determination of maximum input current		<b>N/A</b>
X.2	Overload test procedure		<b>N/A</b>
<b>Y</b>	<b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>		<b>N/A</b>
Y.1	Test apparatus .....		<b>N/A</b>
Y.2	Mounting of test samples .....		<b>N/A</b>
Y.3	Carbon-arc light-exposure apparatus .....		<b>N/A</b>
Y.4	Xenon-arc light exposure apparatus .....		<b>N/A</b>
<b>Z</b>	<b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>		<b>N/A</b>
<b>AA</b>	<b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>		<b>N/A</b>

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Clause	Requirement + Test	Result - Remark	Verdict

<b>BB</b>	<b>ANNEX BB, CHANGES IN THE SECOND EDITION</b>		—
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<b>CC</b>	<b>ANNEX CC, Evaluation of integrated circuit (IC) current limiters</b>		<b>N/A</b>
CC.1	General		<b>N/A</b>
CC.2	Test program 1.....:		<b>N/A</b>
CC.3	Test program 2.....:		<b>N/A</b>

<b>DD</b>	<b>ANNEX DD, Requirements for the mounting means of rack-mounted equipment</b>		<b>N/A</b>
DD.1	General		<b>N/A</b>
DD.2	Mechanical strength test, variable N.....:		<b>N/A</b>
DD.3	Mechanical strength test, 250N, including end stops.....:		<b>N/A</b>
DD.4	Compliance.....:		<b>N/A</b>

<b>EE</b>	<b>ANNEX EE, Household and home/office document/media shredders</b>		<b>N/A</b>
EE.1	General		<b>N/A</b>
EE.2	Markings and instructions		<b>N/A</b>
	Use of markings or symbols.....:		<b>N/A</b>
	Information of user instructions, maintenance and/or servicing instructions.....:		<b>N/A</b>
EE.3	Inadvertent reactivation test.....:		<b>N/A</b>
EE.4	Disconnection of power to hazardous moving parts:		<b>N/A</b>
	Use of markings or symbols.....:		<b>N/A</b>
EE.5	Protection against hazardous moving parts		<b>N/A</b>
	Test with test finger (Figure 2A) .....		<b>N/A</b>
	Test with wedge probe (Figure EE1 and EE2) .....		<b>N/A</b>

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Clause	Requirement + Test			Result - Remark	Verdict
1.5.1	TABLE: List of critical components				<b>P</b>
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity
Chassis	Various	Various	Metal, min. 0.7 mm thick.	--	--
Appliance Inlet	Bei Er Jia	ST-A01 Series	10A, 250Vac, Type C14	IEC/EN 60320-1	VDE 40013388, UL E225980
Voltage Selector Switch (SW1)	Zhangjiagang Huafeng	HF-308	10A, 250V, IE4, T85	IEC/EN 61058-1	VDE 104073, UL E128307
(Alternative)	Canal	SL 15 Series	10 A, 250 Vac, 1E4, T85	IEC/EN 61058-1	VDE 40026318, UL E81103
(Alternative)	Zhe Jiang Bei Er Jia	PS10	10 A, 250 Vac, 1E4, T85	IEC/EN 61058-1	VDE 40023251, UL E236875
PCB	Dong Guan New Energy Printed Circuit Board	NE5000A	V-0, 130°C	--	UL E206420
(Alternative)	Various	Various	V-1 or better, 130°C min.	--	UL
Fuse (F1)(for 200W)	Littelfuse	215	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40013521, UL E10480
(Alternative)	Littelfuse	677	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40006258, UL E10480
(Alternative)	Littelfuse	218 Series	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2	VDE 40013496, UL E10480
(Alternative)	Bel Fuse	5HTP	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40000505, UL E20624
(Alternative)	Hollyland	50CT	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40014896, UL E156471
(Alternative)	Walter	TSC	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40016670, UL E56092
(Alternative)	Walter	ICP Series	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012824, UL E56092
(Alternative)	Conquer	UDA-A	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40008022, UL E82636



IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Conquer	PTU	T5.0A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40001462, UL E82636
Fuse (F1)(for 250W)	Littelfuse	215	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40013521, UL E10480
(Alternative)	Littelfuse	677	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40006258, UL E10480
(Alternative)	Littelfuse	218 Series	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-2	VDE 40013496, UL E10480
(Alternative)	Bel Fuse	5HTP	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40000505, UL E20624
(Alternative)	Hollyland	50CT	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40014896, UL E156471
(Alternative)	Walter	TSC	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40016670, UL E56092
(Alternative)	Walter	ICP Series	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012824, UL E56092
(Alternative)	Conquer	UDA-A	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40008022, UL E82636
(Alternative)	Conquer	PTU	T6.3A, 250Vac	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40001462, UL E82636
X-Capacitors (CX1, CX2) (Optional)	Tenta	MEX	Max. 0.47µF,min. 250Vac, min. 85 °C, X2 type	IEC/EN 60384-14	VDE 119119, UL E186475
(Alternative)	Ultra Tech Xiphi	HQX	Max. 0.47µF,min. 250Vac, min. 85 °C, X2 type	IEC/EN 60384-14	VDE40015608 , UL E183780
(Alternative)	Cheng Tung	CTX	Max. 0.47µF,min. 250Vac, min. 85 °C, X2 type	IEC/EN 60384-14	UL, VDE116941, UL E193049
(Alternative)	Europtronic	MPX	Max. 0.47µF,min. 250Vac, min. 85 °C, X2 type	IEC/EN 60384-14	VDE40018238 , UL E211347

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Strong	MPX	Max. 0.47 $\mu$ F,min. 250Vac, min. 85 °C, X2 type	IEC/EN 60384-14	VDE40005451 , UL E230903
(Alternative)	Shenzhen Yimanfeng Science And	MPX/MKP	Max. 0.47 $\mu$ F,min. 250Vac, min. 85 °C, X2 type	IEC/EN 60384-14	VDE 40028516, UL E315567
Bleeder Resistor (R1)	Various	Various	Max. 680k $\Omega$ , min. 1/4W	--	--
Y-Capacitors (CY1, CY2, CY3) (Optional)	Murata	KY	Min. 250 V, max. 4700 pF, min. 85 °C, min. Y2 type	IEC/EN 60384-14	VDE 115455, UL E37921
(Alternative)	TDK-EPC	CS	Min. 250 V, max. 4700 pF, min. 85 °C, min. Y2 type	IEC/EN 60384-14	VDE 138559, UL E37861
(Alternative)	Jya-Nay	JY	Min. 250 V, max. 4700 pF, min. 85 °C, min. Y2 type	IEC/EN 60384-14	VDE 40001827, UL E201384
(Alternative)	Matsushita	TS	Min. 250 V, max. 4700 pF, min. 85 °C, min. Y2 type	IEC/EN 60384-14	VDE 087472, UL E62674
(Alternative)	Success	SE	Min. 250 V, max. 4700 pF, min. 85 °C, min. Y2 type	IEC/EN 60384-14	VDE 122995, UL E114280
(Alternative)	Welson	KL	Min. 250 V, max. 4700 pF, min. 85 °C, min. Y2 type	IEC/EN 60384-14	VDE 116772, UL E104572
Bridge diode (BD1)	Various	Various	Min. 4A, min.600V	--	--
Thermistor (THR1) (optional)	Various	Various	Min. 5 $\Omega$ at 25°C, min. 3A	--	--
Electrolytic Capacitors (C1, C2)	Various	Various	330uF to 470uF, min. 400V, min. 85°C	--	--
Transistor (Q1, Q2)	Various	Various	Min. 9A, min. 500V	--	--
Current sense resistor (R22)	Various	Various	Min. 0.16 $\Omega$ , min. 2W	--	--

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
IC (U1)	Various	Various	Min. 0.8A, min. 700V	--	--
Optical Isolator (U01, U02, U2)	Sharp Corp	PC817	di = 0.5 mm, int. dcr.= 6.5mm, ext. dcr.= 8.0mm, 100°C	IEC/EN 60950-1 EN 60747-5-2	VDE 40008087, UL E64380
(Alternative)	Fairchild	H11A817	di = 0.6mm, ext. dcr = 7.0 mm, Thermal cycling test. 100°C	IEC/EN 60950-1 EN 60747-5-2	VDE 40026857, UL E90700
(Alternative)	Everlight	EL817	di = 0.5mm, int. dcr = 6.0mm, ext. dcr = 7.7 mm, 100°C	IEC/EN 60950-1 EN 60747-5-2	VDE 132249, UL E214129
(Alternative)	Toshiba	TLP721	di = 0.8 mm, ext. dcr.= 8.0mm, 100°C	IEC/EN 60950-1 EN 60747-5-2	VDE40009373 , UL E67349
(Alternative)	Renesas	PS2561 Series	Dti>0.4mm, ext. dcr>7.0mm, 100°C, Thermal cycling test.	IEC/EN 60950-1 EN 60747-5-2	Semko 1017620, UL E72422
Line Filter (LF1) (Optional)	SI Tech Corp Ltd	EE-25	N1 (pin 1 -2): □0.6mm x 37.5Ts, N2 (pin 3-4): 0.6mm x 37.5Ts; Min. 105°C	--	--
Line Filter (LF2) (Optional)	SI Tech Corp Ltd	KL-011774G	N1(pin 1 -4): □0.8mm x 10.5Ts, N2 (pin 2-3): 0.8mm x 10.5Ts; Min. 105°C	--	--
Drive Choke (T3)	SI Tech Corp Ltd	EE-13	N3 (pin 8 -9): □0.27mm x 30Ts, N2 (pin 1-2): 0.25mm x 30Ts; N1 (pin 4-5): 0.25mm x 30Ts; Min. 130°C	--	--

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Main Transformer (T1)	SI Tech Corp Ltd	EI-33	Pri. Winding N1(Pin 4-3): $\Phi 0.7\text{mm} \times 1\text{Px}19\text{Ts}$  N4(Pin 3-2): $\Phi 0.7\text{mm} \times 1\text{Px}19\text{Ts}$  Sec. Winding N2(Pin 11,12-7,8): $\Phi 0.8\text{mm} \times 4\text{Px}3\text{Ts}$  N3(Pin 9-7,8): $\Phi 0.8\text{mm} \times 3\text{Px}7\text{Ts}$  Class B	Applicable parts in IEC 60950-1 and acc. to IEC 60085	Test with appliance
-Bobbin	Chang Chun Plastics Co Ltd	T375J	PF, V-0, 150°C, min. Thickness 0.5mm	--	UL E59481
-Insulation Tape	Chyun Yih Tape Co Ltd	P2981F	130 °C	--	UL E81174
- Varnish	Wu Jiang Taihu Insulating Material Co Ltd	T4260P	Minimum 130 °C	--	UL E228349
Stand by Transformer (T2)	SI Tech Corp Ltd	EEL-19	Pri. Winding N1(Pin 10-8): $\Phi 0.21\text{mm} \times 1\text{Px}75\text{Ts}$  N3(Pin 5-6): $\Phi 0.4\text{mm} \times 1\text{Px}30\text{Ts}$  N4(Pin 5-7): $\Phi 0.3\text{mm} \times 1\text{Px}11\text{Ts}$  N5(Pin 8-9): $\Phi 0.21\text{mm} \times 1\text{Px}75\text{Ts}$  Sec. Winding N2(Pin 2-4): $\Phi 0.4\text{mm} \times 3\text{Px}9\text{Ts}$  Class B	Applicable parts in IEC 60950-1 and acc. to IEC 60085	Accepted by TÜV Rheinland
-Bobbin	Chang Chun Plastics Co Ltd	T375J	PF, V-0, 150°C, min. Thickness 0.5mm	--	UL E59481
-Insulation Tape	Chyun Yih Tape Co Ltd	P2981F	130 °C	--	UL E81174

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- Varnish	Wu Jiang Taihu Insulating Material Co Ltd	T4260P	Minimum 130 °C	--	UL E228349
Mylar Sheet (between PCB and Chassis)	Dupont Teijin Films U S L P	Mylar MO31	VTM-2 or better 0.25mm min.	--	UL E93687
(Alternative)	Various	Various	VTM-2 or better 0.25mm min.	--	UL
DC Fan (80x80x15mm )	Xin Wang Xin	XWX0815M12S	12V, 0.17A, min. 29.8 CFM	IEC/EN 60950-1	TÜV SÜD B1001 72554001 UL E335638
Primary internal wire	Various	1015	Min. 80°C, min. 300V, min. 20AWG, VW-1	--	UL
Primary earthing wire	Wonderful	1015	Min. 105°C, min. 300V, min. 18AWG, VW-1.	--	UL E77981
(Alternative)	Various	Various	Min. 105°C, min. 300V, min. 18AWG, VW-1.	--	UL
Insulation tube(for DC Fan)	Kingboard Laminates (Macao Commercial Offshore) Ltd	KB-6160C	V-0, 130 °C,	UL	UL E123995
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) In Optocoupler technical data column, where "Dti." means distance through insulation, "Int." means internal creepage distance, "Ext." means external creepage distance.					

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	TABLE: Opto Electronic Devices		P
Manufacturer.....: See table 1.5.1			
Type.....: See table 1.5.1			
Separately tested.....: See table 1.5.1			
Bridging insulation.....: See table 1.5.1			
External creepage distance.....: See table 1.5.1			
Internal creepage distance.....: See table 1.5.1			
Distance through insulation.....: See table 1.5.1			
Tested under the following conditions.....: See table 1.5.1			
Input.....: Tested with appliance.			
Output.....: Tested with appliance.			
Supplementary information: See above table 1.5.1.			

<b>1.6.2</b>	<b>TABLE: Electrical data (in normal conditions)</b>					<b>P</b>
U (V)/Hz	I (A)	I <sub>rated</sub> (A)	P (W)	Fuse #	I <sub>fuse</sub> (A)	Condition/status
Model: WMS-250SFX						
103.5/50	5.01	--	353.8	F1	5.01	Rated load.
103.5/60	4.87	--	351.8	F1	4.87	Rated load.
115/50	4.49	5	346.8	F1	4.49	Rated load.
115/60	4.38	5	345.5	F1	4.38	Rated load.
121.9/50	4.23	--	344.3	F1	4.23	Rated load.
121.9/60	4.14	--	343.2	F1	4.14	Rated load.
126.5/50	4.09	--	342.8	F1	4.09	Rated load.
126.5/60	4.01	--	341.9	F1	4.01	Rated load.
207/50	2.45	--	334.8	F1	2.45	Rated load.
207/60	2.40	--	334.5	F1	2.40	Rated load.
230/50	2.24	5	333.1	F1	2.24	Rated load.
230/60	2.20	5	332.8	F1	2.20	Rated load.
243.8/50	2.13	--	332.5	F1	2.13	Rated load.
243.8/60	2.09	--	332.3	F1	2.09	Rated load.
253/50	2.07	--	332.2	F1	2.07	Rated load.
253/60	2.03	--	331.9	F1	2.03	Rated load.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			
Model: WMS-250SFX			
Maximum normal load (+5V/11A, +3.3V/12A, +12V/12A, -12V/0.5A, +5Vsb/2A)			

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
<b>Model: WMS-250SFX</b>					
Output +/- (+5V)	11	5.10	17.75	78.99	
Output +/- (+3.3V)	12	3.39	20.70	65.62	
Output +/- (+12V)	12	12.25	20.10	222.51	
Output +/- (-12V)	0.5	-11.80	2.73	24.87	
Output +/- (+5Vsb)	2	5.06	4.31	20.17	
Supplementary information:					
Test voltage: 253 V					
Test frequency: 60Hz					

2.1.1.5 c) 2)	TABLE: stored energy			N/A
Capacitance C (μF)		Voltage U (V)	Energy E (J)	
--		--	--	
supplementary information:				

2.1.1.7	TABLE: Discharge test				P
Condition	$\tau$ calculated (s)	$\tau$ measured (s)	$t_{u \rightarrow 0V}$ (s)	Comments	
System on (switch on)	0.64	0.60	--	Vo=360V, 37%Vo=133.2 V, Vtc= 68.0 V	
Note(s):					
1. Overall capacity: 0.94μF(CX1= 0.47μF, CX2= 0.47μF)					
Discharge resistor: 0.68Mohm(R1= 0.68Mohm)					

2.2	TABLE: evaluation of voltage limiting components in SELV circuits		P
Component (measured between)	max. voltage (V) (normal operation)	Voltage Limiting Components	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	V peak	V d.c.	
Model: WMS-250SFX			
T1			
Pin 9 to Pin 7,8	80.0	--	--
After C12 to Pin 7,8	80.5	--	--
After DB1 to Pin 7,8	79.2	--	--
After L2 to Pin 7,8	--	23.0	L2
Pin 11,12 to Pin 7,8	28.0	--	--
T2			
Pin 2 to Pin 4	24.8	--	--
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)		
Output terminal(+12V)	L2 pin 1-2 Shorted(Unit shut down, except +5Vsb)		
Output terminal(-12V)	L2 pin 1-2 Shorted(Unit shut down, except +5Vsb)		
Output terminal(+5V)	L2 pin 1-2 Shorted(Unit shut down, except +5Vsb)		
Supplementary information:			
Test voltage: 253 V			
Test frequency: 60 Hz			

<b>2.4.2</b>	<b>TABLE: limited current circuit measurement</b>					<b>N/A</b>
Location	Voltage (V)	Current (mA)	Freq. (Hz)	Limit (mA)	Comments	
--	--	--	--	--	--	
Note(s):						
No Y1 cap. used.						

2.5	TABLE: limited power sources			N/A
Circuit output tested:				
Measured Uoc (V) with all load circuits disconnected:				
	I <sub>sc</sub> (A)		VA	
	Meas.	Limit	Meas.	Limit
Normal condition	--	--	--	--
Abnormal condition	--	--	--	--



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

supplementary information:

Test voltage: 253V

Test frequency: 60 Hz

2.6.3.4	TABLE: Ground continue test		P
Location		Resistant measured (Ω)	Comments
PE pin of inlet to metal chassis		0.01Ω	32A, 2 minutes.
PE pin of inlet to metal chassis		0.02Ω	40A, 2 minutes/
Note(s): --			

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments
For model: WMS-250SFX				
Transformer T1				
T1 Pin 2 – T1 Pin 7,8		183	468	
T1 Pin 4 – T1 Pin 7,8		183	436	
T1 Pin 2 – T1 Pin 9		208	464	Maximum Vrms
T1 Pin 4 – T1 Pin 9		163	448	
T1 Pin 2 – T1 Pin 11,12		193	480	Maximum Vpeak
T1 Pin 4 – T1 Pin 11,12		174	424	
T2 Pin 5 – T2 Pin 2		224	372	
T2 Pin 5 – T2 Pin 4		227	376	Maximum Vrms
T2 Pin 6 – T2 Pin 2		222	404	
T2 Pin 6 – T2 Pin 4		226	428	Maximum Vpeak
T2 Pin 7 – T2 Pin 2		212	376	
T2 Pin 7 – T2 Pin 4		226	388	
T2 Pin 9 – T2 Pin 2		212	376	
T2 Pin 9 – T2 Pin 4		226	388	
T2 Pin 10 – T2 Pin 2		207	368	
T2 Pin 10 – T2 Pin 4		210	372	
U2 Pin 1 – U2 Pin 3		226	384	
U2 Pin 1 – U2 Pin 4		226	378	
U2 Pin 2 – U2 Pin 3		225	380	
U2 Pin 2 – U2 Pin 4		226	380	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
U01 Pin 1 – U01 Pin 3	226	372	
U01 Pin 1 – U01 Pin 4	226	374	
U01 Pin 2 – U01 Pin 3	226	374	
U01 Pin 2 – U01 Pin 4	224	380	
U02 Pin 1 – U02 Pin 3	223	376	
U02 Pin 1 – U02 Pin 4	225	376	
U02 Pin 2 – U02 Pin 3	226	374	
U02 Pin 2 – U02 Pin 4	223	372	
Supplementary information:			
Test voltage: 230 V			
Test frequency: 60 Hz			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
<b>Functional:</b>						
L to N before fuse F1	420	250	1.5	2.1	2.0	2.1
L to N under fuse F1	420	250	1.5	4.0	2.0	4.0
<b>Basic/supplementary:</b>						
<b>Primary components (with 10N) to earth</b>	<b>420</b>	<b>250</b>	<b>2.0</b>	<b>See below</b>	<b>2.5</b>	<b>See below</b>
Under CY1	--	--	--	4.6	--	4.6
Under CY2	--	--	--	4.6	--	4.6
Under CY3	--	--	--	4.6	--	4.6
Heatsink HS1 to secondary component C20 surface	--	--	--	6.0	--	6.0
- Primary trace of L, N to earth screw	--	--	--	4.0	--	4.0
<b>Reinforced:</b>						

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
<b>Primary components (with 10N) to secondary components</b>	<b>420</b>	<b>250</b>	<b>4.0</b>	<b>See below</b>	<b>5.0</b>	<b>See below</b>
- Primary trace of F1 to secondary trace	--	--	--	4.2	--	5.2
- under U01	--	--	--	5.1	--	5.1
- under U02	--	--	--	5.1	--	5.1
- under U2	--	--	--	5.3	--	5.3
- under T2	428	250	4.2	6.0	5.0	6.0
- under T1	480	250	4.2	9.0	5.0	9.0
- under R6 trace to D4 trace	420	250	4.0	4.1	5.0	5.1
Supplementary information:						
1. Functional insulation shorted, see 5.3.4 a).						
2. Other functional insulation evaluated according to sub-clause 5.3.4 c).						
3. All internal wires were fixed by soldering and glued.						
4. The component (CY3) fixed by glue for away from metal enclosure.						
5. Two layers insulation covered the heatsink (SH1).						
6. A layer of mylar sheet was used bottom and side of the power board.						
7. Clearance and creepage not described above are far larger than limit above.						
8. For mains transformers, see appended table C.2.						

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test volt- age (V)	Required DTI (mm)	DTI (mm)
Opto-coupler		420	250	3000V	0.4	1)
Supplementary information:						
1). See appended table 1.5.1.						
2). Test voltages are a.c.						

4.3.8	TABLE: Batteries					N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available						
Is it possible to install the battery in a reverse polarity position?						
	Non-rechargeable batteries		Rechargeable batteries			
	Discharging	Un-intentional	Charging	Discharging	Reversed charging	

IEC 60950-1									
Clause	Requirement + Test					Result - Remark			Verdict
	Meas. current	Manuf. Specs.	charging	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									Verdict
- Chemical leaks									
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									

<b>4.3.8</b>	<b>TABLE: Batteries</b>	<b>N/A</b>
Battery category ..... : (Lithium, NiMh, NiCad, Lithium Ion ...)		
Manufacturer ..... :		
Type / model..... :		
Voltage ..... :		
Capacity..... : mAh		
Tested and Certified by (incl. Ref. No.) ..... :		
Circuit protection diagram:		
<b>MARKINGS AND INSTRUCTIONS (1.7.12, 1.7.15)</b>		
Location of replaceable battery		
Language(s) .....:		
Close to the battery .....:		
In the servicing instructions .....:		
In the operating instructions .....:		

<b>4.5</b>	<b>TABLE: Thermal requirements</b>	<b>P</b>
	test voltage (V) .....	See below.
	t1 (°C) .....	See below.

IEC 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
	t2 (°C) .....	See below.					—
Maximum temperature T of part/at:		T (°C)					allowed T <sub>max</sub> (°C)
Test condition		a	b	c	d	e	
Model: WMS-250SFX							
AC Inlet		56.4	55.6	53.3	52.9	50.1	70
Voltage Selector Switch		56.2	56.1	54.6	55.0	48.7	85
Output wire		56.9	57.5	56.1	56.8	49.4	80
Input wire		53.0	52.8	51.2	51.4	50.2	80
CX1 body		82.9	83.8	81.1	81.0	49.4	85
LF1 coil		102.5	94.4	74.4	70.6	50.9	105
CX2 body		68.6	66.1	64.1	62.5	49.0	85
LF2 coil		70.4	67.5	63.2	61.3	51.2	105
CY2 body		64.7	62.9	60.5	59.1	52.8	85
PCB under BD1		71.7	68.9	66.4	64.4	57.0	130
PCB under THR1		75.3	71.6	69.6	67.0	60.7	130
C1 body		65.5	62.8	58.2	56.9	59.0	85
C2 body		66.1	63.6	59.7	58.4	59.3	85
PCB under Q1		87.8	82.4	83.1	78.9	57.3	130
T1 coil		98.2	96.9	95.5	95.1	51.9	110
T1 core		89.2	88.3	87.5	87.2	51.3	110
T2 coil		60.7	61.4	60.4	61.0	90.5	110
T2 core		60.4	60.9	60.0	60.4	84.1	110
T3 coil		57.9	57.4	56.3	56.1	65.6	130
U2 body		54.7	55.3	53.3	53.8	76.3	100
U02 body		55.7	56.2	55.1	55.6	60.8	100
U01 body		54.2	54.7	53.6	54.1	60.3	100
PCB near DB1		84.5	84.4	83.6	84.3	49.7	130
PCB near DB3		108.7	112.4	110.1	112.5	49.7	130
L2 coil		85.9	89.5	86.8	90.2	52.3	105
PCB near D7		58.8	59.3	58.4	58.9	49.4	130
Mylar sheet		51.2	51.5	50.4	51.1	58.0	--
Metal enclosure		51.9	52.1	50.7	51.1	48.1	70
Ambient		45.0	45.0	45.0	45.0	45.0	--
Temperature T of winding:			R <sub>1</sub> (Ω)	R <sub>2</sub> (Ω)	T (°C)	allowed T <sub>max</sub> (°C)	insulation class

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
--	--	--	--	--	--
<p>Supplementary information:</p> <p>The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.</p> <p>With a rated maximum ambient temperature of 45°C, the maximum temperature are calculated as follows:</p> <p>Winding components providing safety isolation:</p> <p>- Class B → Tmax = 120°C-10°C = 110°C (10°C decreased by thermocouple method)</p> <p>Operator touchable surface with maximum temperature rise of: 70°C</p> <p>For the other non-listed component temperature limit, refer to table 1.5.1.</p> <p>Test condition:</p> <p>a. 103.5V/50Hz, rated load.</p> <p>b. 126.5V/50Hz, rated load.</p> <p>c. 207V/50Hz, rated load.</p> <p>d. 253V/50Hz, rated load.</p> <p>e. 103.5V/50Hz, stand by.</p>					

4.5.5	TABLE: Ball pressure test of thermoplastic parts			N/A
	Allowed impression diameter (mm) ..... : ≤ 2 mm			—
Part		Test temperature (°C)	Impression diameter (mm)	
--		--	--	
Supplementary information: The bobbin material of transformer (T1 & T2) is phenolic, no test is needed.				

<b>4.7</b>	<b>TABLE: Resistance to fire</b>				<b>N/A</b>
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--
Supplementary information: --					

<b>5.1</b>	<b>TABLE: touch current measurement</b>			<b>P</b>
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
L. N → Enclosure	0.68	3.5	System ON, switch “e” opened.	
Output terminals	0.68	3.5	System ON, switch “e” opened.	

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
supplementary information: Test voltage: 253Vac Test frequency: 60Hz Capacitance: CY1= CY2= CY3= 4700pF			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
Different polarity of power supply (fuse disconnection)		DC	1500	No
Basic/supplementary:				
Primary circuit to metal enclosure		AC	1707	No
Mylar sheet under main board (all source)		AC	1707	No
Transformer: core to primary winding (T1) (Core as floating)		AC	1707	No
Transformer: core to secondary winding (T1) (Core as floating)		AC	1707	No
Transformer: core to primary winding (T2) (Core as floating)		AC	1640	No
Transformer: core to secondary winding (T2) (Core as floating)		AC	1640	No
Reinforced:				
Primary circuit to secondary circuit (for unit)		DC	4242	No
Transformer: primary winding to secondary winding (T1) (Core as floating)		AC	3000	No
Transformer: primary winding to secondary winding (T2) (Core as floating)		AC	3000	No
One layer insulation tape of T1 and T2		AC	3000	No
Optocoupler (Renesas / PS2561 Series)		AC	4800	No
Supplementary information:				
1) The test voltage is according to client requirement.				

5.3	TABLE: Fault condition tests						P
	Ambient temperature (°C) .....					25°C, unless otherwise specified.	—
	Power source for EUT: Manufacturer, model/type, output rating .....					See model list	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	

IEC 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
<b>Model: WMS-250SFX</b>							
BD1	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards	
C1	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.	
C2	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.	
Q1 Pin G - Pin S	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.	
Q1 Pin G - Pin D	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.	
Q1 Pin D - Pin S	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.	
Q2 Pin G - Pin S	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.	
Q2 Pin G - Pin D	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.	
Q2 Pin D - Pin S	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.	
R22	s-c	253Vac	1sec	F1	--	Fuse open immediately, Q2 damage, no hazards.	
U1 Pin 7,8 - Pin 5	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.	
U1 Pin 7,8 - Pin 3	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.	
R8	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.	
U2 Pin 1- Pin 2	s-c	253Vac	10min	F1	2.07 -> 2.08	Normal operation, maximum temperature was: T1 coil= 76.1°C, T1 core= 64.8°C, T2 coil= 44.2°C, T2 core= 41.1°C, Ambient = 28.8°C, no damage, no hazards.	
U2 Pin 1	o-c	253Vac	10min	F1	2.07 -> 2.08	Normal operation, no damage, no hazards.	
U2 Pin 3- Pin 4	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.	
U2 Pin 3	o-c	253Vac	10min	F1	2.07 -> 2.08	Normal operation, no damage, no hazards.	



IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
U01 Pin 1- Pin 2	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
U01 Pin 1	o-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
U01 Pin 3- Pin 4	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
U01 Pin 3	o-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
U02 Pin 1- Pin 2	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
U02 Pin 1	o-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
U02 Pin 3- Pin 4	s-c	253Vac	10min	F1	2.07 -> 2.06	Normal operation, no damage, no hazards.
U02 Pin 3	o-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
DB1	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
DB2	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
DB3	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
T1 Pin 2 – Pin 4	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
T1 Pin 7,8 – Pin 9	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
T1 Pin 7,8 – Pin 11,12	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
T2 Pin 2 – Pin 4	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.
T2 Pin 5 – Pin 6	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.

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Clause	Requirement + Test				Result - Remark	Verdict
T2 Pin 5 – Pin 7	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.
T2 Pin 9 – Pin 10	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.
+3.3V +/-	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+12V / +/-	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+5V +/-	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
-12V +/-	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+5Vsb +/-	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.
+3.3V / +5V	s-c	253Vac	10min	F1	4.27 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+3.3V/ +12V	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+3.3V / -12V	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+3.3V/ +5Vsb	s-c	253Vac	10min	F1	2.07 -> 2.06	Normal operation, no damage, no hazards.
+5V / +12V	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+5V / -12V	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
+5V / +5Vsb	s-c	253Vac	10min	F1	2.07 -> 2.08	Normal operation, no damage, no hazards.
-12V / +12V	s-c	253Vac	10min	F1	2.07 -> 0.18	Unit shut down immediately, except +5Vsb, no damage, no hazards.
-12V/ +5Vsb	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.
+12V/+ 5Vsb	s-c	253Vac	10min	F1	2.07 -> 0.03	Unit shut down immediately, no damage, no hazards.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
After L1 – T1 Pin 7,8(+3.3V transformer overload)	o-l	253Vac	4.0hrs	F1	2.07 -> 2.20 -> 2.25 -> 0.18	Temperature was stable at 5.6A, increase to 6.6A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 91.4°C, T1 core= 89.3°C, T2 coil= 86.3°C, T2 core= 86.1°C, Ambient = 27.8°C, no damage, no hazards. Output with normal load.
After L2 – T1 Pin 7,8(+5V transformer overload)	o-l	253Vac	4.0hrs	F1	2.07 -> 2.22 -> 2.30 -> 0.18	Temperature was stable at 5A, increase to 6.2A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 97.8°C, T1 core= 97.1°C, T2 coil= 81.2°C, T2 core= 78.0°C, Ambient = 27.8°C, no damage, no hazards. Output with normal load.
After L2 – T1 Pin 7,8(+12V transformer overload)	o-l	253Vac	3.5hrs	F1	2.07 -> 2.26 -> 2.45 -> 0.18	Temperature was stable at 4A, increase to 5.8A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 97.7°C, T1 core= 94.9°C, T2 coil= 85.5°C, T2 core= 84.9°C, Ambient = 26.9°C, no damage, no hazards. Output with normal load.
After L2 – T1 Pin 7,8(-12V transformer overload)	o-l	253Vac	3.8hrs	F1	2.07 -> 2.15 -> 2.22 -> 0.18	Temperature was stable at 1.9A, increase to 2.0A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 91.9°C, T1 core= 87.0°C, T2 coil= 86.2°C, T2 core= 85.4°C, Ambient = 26.9°C, no damage, no hazards. Output with normal load.
After L7 – T2 Pin 4(+5Vsb transformer overload)	o-l	253Vac	4.0hrs	F1	0.18 -> 0.23 -> 0.28 -> 0.03	Temperature was stable at 1.9A, increase to 2.1A, unit shut down immediately. Maximum temperature was: T1 coil= 39.4°C, T1 core= 38.3°C, T2 coil= 125.7°C, T2 core= 119.0°C, Ambient = 26.9°C, no damage, no hazards. Output with normal load.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	
+3.3V/+/-	o-l	253Vac	3.0hrs	F1	2.07 -> 2.20 -> 2.25 -> 0.18	Temperature was stable at 17.6A, increase to 18.6A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 89.8°C, T1 core= 88.0°C, T2 coil= 84.3°C, T2 core= 83.6°C, Ambient = 27.2°C, no damage, no hazards.
+5V/+/-	o-l	253Vac	3.0hrs	F1	2.07 -> 2.22 -> 2.30 -> 0.18	Temperature was stable at 16A, increase to 17.2A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 95.2°C, T1 core= 94.5°C, T2 coil= 80.9°C, T2 core= 78.1°C, Ambient = 27.2°C, no damage, no hazards.
+12V	o-l	253Vac	4.0hrs	F1	2.07 -> 2.26 -> 2.45 -> 0.18	Temperature was stable at 16A, increase to 17.8A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 95.3°C, T1 core= 93.3°C, T2 coil= 84.5°C, T2 core= 83.0°C, Ambient = 26.9°C, No damage, no hazards.
-12V/+/-	o-l	253Vac	3.0hrs	F1	2.07 -> 2.15 -> 2.22 -> 0.18	Temperature was stable at 2.4A, increase to 2.5A, unit shut down, except +5Vsb. Maximum temperature was: T1 coil= 90.8°C, T1 core= 87.7°C, T2 coil= 84.4°C, T2 core= 83.3°C, Ambient = 26.6°C, no damage, no hazards.
+5Vsb/+/-	o-l	253Vac	3.5hrs	F1	0.18 -> 0.23 -> 0.28 -> 0.03	Temperature was stable at 3.9A, increase to 4.1A, unit shut down immediately. Maximum temperature was: T1 coil= 39.0°C, T1 core= 37.5°C, T2 coil= 121.8°C, T2 core= 110.1°C, Ambient = 26.6°C, no damage, no hazards.
Fan	Stall	253Vac	2.0hrs	F1	2.07 -> 0.18	Unit shut down, except +5Vsb. Maximum temperature were: T1 coil= 90.0°C, T1 core= 89.0°C, T2 coil= 84.6°C, T2 core= 82.6°C, Ambient = 26.6°C, no damage, no hazards.

IEC 60950-1						
Clause	Requirement + Test				Result - Remark	Verdict
Opening	Blocked	253Vac	2.0hrs	F1	2.07 -> 0.18	Unit shut down, except +5Vsb. Maximum temperature were: T1 coil= 102.2°C, T1 core= 100.3°C, T2 coil= 94.9°C, T2 core= 94.3°C, Ambient = 26.5°C, no damage, no hazards.
Voltage select switch	Voltage mismatch	253V-> 126.5V	1sec	F1	2.07 -> 0.08	Q1, Q2 damage, no hazards, repeat two times, total three times, the same result came out, no hazards.
Voltage select switch	Voltage mismatch	126.5V-> 253V	1sec	F1	--	Fuse open immediately, no hazards.
<b>Model: WMS-250SFX</b>						
BD1	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.
C1	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.
C2	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.
R22	s-c	253Vac	1sec	F1	--	Fuse open immediately, Q2 damage, no hazards.
U1 Pin 7,8 - Pin 5	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.
U1 Pin 7,8 - Pin 3	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.
R8	s-c	253Vac	1sec	F1	--	Fuse open immediately, no hazards.
Voltage select switch	Voltage mismatch	126.5 Vac -> 253Vac	1sec	F1	--	Fuse open immediately, no hazards.
Supplementary information: In fault column, where s-c=short-circuited, o-l= over-loaded, o-c= open-circuited. a) For fuse opened condition, same result came out for each source of fuse used and the fuse dose not cracked repeat ten times.						

IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
C.2	TABLE: transformers (T1 )						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
Primary winding to secondary winding	RI	480	250	3000Vac	4.2	5.0	0.4
Core to Primary winding	BI	480	250	1707Vac	2.1	2.5	--
Core to secondary winding	SI	480	250	1707Vac	2.1	2.5	0.4
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measure d distance thr. insul. / mm; number of layers
Primary winding to secondary winding	RI			3000Vac	6.0	6.0	2 layers
Core to Primary winding	BI			1707Vac	3.0	3.0	--
Core to secondary winding	SI			1707Vac	3.0	3.0	2 layers
supplementary information:							
Concentric windings on EI-33 type bobbin, at least two layers insulation tape used between primary and secondary windings. Distance tape of 6.0 mm on bottom side and 3.0 mm on top side of windings.. Outer winding is primary winding. Core is considered as floating circuit.							

IEC 60950-1							
Clause	Requirement + Test			Result - Remark			Verdict
C.2	TABLE: transformers (T2)						P
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
Primary winding to secondary winding	RI	428	250	3000Vac	4.2	5.0	0.4
Core to Primary winding	BI	428	250	1640Vac	2.1	2.5	--
Core to secondary winding	SI	428	250	1640Vac	2.1	2.5	0.4
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measure d distance thr. insul. / mm; number of layers
Primary winding to secondary winding	RI			3000Vac	6.0	6.0	2 layers
Core to Primary winding	BI			1640Vac	3.0	3.0	--
Core to secondary winding	SI			1640Vac	3.0	3.0	2 layers
supplementary information:							
Concentric windings on EEL-19 type bobbin, at least two layers insulation between primary and secondary windings. Distance tape of 6.0 mm on bottom side and 3.0 mm on top side of windings.. Outer winding is primary winding. Core is considered as floating circuit.							

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<p align="center"><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b>  <b>EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</b>  Information technology equipment – Safety –  PART 1: GENERAL REQUIREMENTS</p>			
<b>Differences according to</b> .....: EN 60950-1:2006/A11:2009/A1:2010			
<b>Attachment Form No.</b> .....: EU_GD_IEC60950_1B			
<b>Attachment Originator</b> .....: SGS Fimko Ltd			
<b>Master Attachment</b> .....: Date (2010-04)			
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EN 60950-1:2006/A11:2009/A1:2010 – CENELEC COMMON MODIFICATIONS			
IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes:  Annex ZA (normative)      Normative references to international publications with their corresponding European publications  Annex ZB (normative)      Special national conditions		<b>P</b>
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list:  1.4.8 Note 2      1.5.1      Note 2 & 3      1.5.7.1      Note 1.5.8 Note 2      1.5.9.4      Note      1.7.2.1      Note 4, 5 & 6 2.2.3 Note      2.2.4      Note      2.3.2      Note 2.3.2.1 Note 2      2.3.4      Note 2      2.6.3.3      Note 2 & 3 2.7.1 Note      2.10.3.2      Note 2      2.10.5.13      Note 3 3.2.1.1 Note      3.2.4      Note 3.      2.5.1      Note 2 4.3.6 Note 1 & 2      4.7      Note 4      4.7.2.2      Note 4.7.3.1 Note 2      5.1.7.1      Note 3 & 4      5.3.7      Note 1 6      Note 2 & 5      6.1.2.1      Note 2      6.1.2.2      Note 6.2.2 Note      6.2.2.1      Note 2      6.2.2.2      Note 7.1 Note 3      7.2      Note      7.3      Note 1 & 2 G.2.1 Note 2      Annex H      Note 2		<b>P</b>
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list:  1.5.7.1      Note      6.1.2.1      Note 2 6.2.2.1      Note 2      EE.3      Note		<b>P</b>



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	<p>Add the following subclause:</p> <p>1.3.Z1 Exposure to excessive sound pressure</p> <p>The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones.</p> <p>NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.</p>		<b>N/A</b>
1.5.1	<p>Add the following NOTE:</p> <p>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC</p>		<b>P</b>
1.7.2.1 (A1:2010)	<p>In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.</p>		<b>N/A</b>
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p>		<b>P</b>

IEC60950_1B – ATTACHMENT – National Differences									
Clause	Requirement + Test	Result - Remark	Verdict						
	<p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		<b>P</b>						
2.7.2	This subclause has been declared 'void'.		<b>P</b>						
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted.	<b>P</b>						
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td>Up to and including 6  </td><td>0,75 <sup>a)</sup>  </td></tr><tr><td>Over 6 up to and including 10   (0,75) <sup>b)</sup></td><td>1,0  </td></tr><tr><td>Over 10 up to and including 16   (1,0) <sup>c)</sup></td><td>1,5  </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition <sup>a)</sup>.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6	0,75 <sup>a)</sup>	Over 6 up to and including 10   (0,75) <sup>b)</sup>	1,0	Over 10 up to and including 16   (1,0) <sup>c)</sup>	1,5	Replace.	<b>P</b>
Up to and including 6	0,75 <sup>a)</sup>								
Over 6 up to and including 10   (0,75) <sup>b)</sup>	1,0								
Over 10 up to and including 16   (1,0) <sup>c)</sup>	1,5								
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <table><tr><td>Over 10 up to and including 16  </td><td>1,5 to 2,5  </td><td>1,5 to 4  </td></tr></table> <p>Delete the fifth line: conductor sizes for 13 to 16 A</p>	Over 10 up to and including 16	1,5 to 2,5	1,5 to 4	Deleted.	<b>P</b>			
Over 10 up to and including 16	1,5 to 2,5	1,5 to 4							
4.3.13.6 (A1:2010)	<p>Replace the existing NOTE by the following:</p> <p>NOTE Z1 Attention is drawn to:</p> <p>1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and</p> <p>2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).</p>	Replace.	<b>N/A</b>						

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>	Not such equipment.	N/A
Bibliography	Additional EN standards.		—

<b>ZA</b>	Normative references to international publications with their corresponding European publications	—
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ZB Annex	Special National Conditions (EN)		<b>P</b>
1.2.4.1	In <b>Denmark</b> , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	Appliances inlet used.	N/A
1.2.13.14	In <b>Norway</b> and <b>Sweden</b> , for requirements see 1.7.2.1 and 7.3 of this annex.	No such construction.	N/A
1.5.7.1	In <b>Finland, Norway</b> and <b>Sweden</b> , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	No such resistor.	N/A
1.5.8	In <b>Norway</b> , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		<b>P</b>
1.5.9.4	In <b>Finland, Norway</b> and <b>Sweden</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	No such construction.	N/A

[illegible]

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkøplet</p> <p>utstyr – og er tilkøplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan</p> <p>utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för</p> <p>brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät</p> <p>galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		<b>N/A</b>
1.7.5	<p>In <b>Denmark</b>, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.</p> <p>For <b>CLASS II EQUIPMENT</b> the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	No socket-outlet provided.	<b>N/A</b>
2.2.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	<b>N/A</b>
2.3.2	In <b>Finland, Norway and Sweden</b> there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	<b>N/A</b>
2.3.4	In <b>Norway</b> , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	<b>N/A</b>
2.6.3.3	In the <b>United Kingdom</b> , the current rating of the circuit shall be taken as 13 A, not 16 A.		<b>P</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the <b>United Kingdom</b> , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	No direct plug in equipment.	<b>N/A</b>
2.10.5.13	In <b>Finland, Norway and Sweden</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV.	<b>N/A</b>
3.2.1.1	<p>In <b>Switzerland</b>, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <p>SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A</p> <p>SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A</p> <p>SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A</p> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <p>SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A</p> <p>SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A</p> <p>SEV 5934-2.1998: Plug Type 23, L+N+PE .250 V, 16 A</p>	For appliance inlet appliance, should be considered during national approval.	<b>N/A</b>



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	<p>In <b>Denmark</b>, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>	For appliance inlet appliance, should be considered during national approval.	N/A
3.2.1.1	<p>In <b>Spain</b>, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>	For appliance inlet appliance, should be considered during national approval.	N/A
3.2.1.1	<p>In the <b>United Kingdom</b>, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations.</p> <p>NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>	For appliance inlet appliance, should be considered during national approval.	N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In <b>Ireland</b> , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	For appliance inlet appliance, should be considered during national approval.	<b>N/A</b>
3.2.4	In <b>Switzerland</b> , for requirements see 3.2.1.1 of this annex.	For appliance inlet appliance, should be considered during national approval.	<b>N/A</b>
3.2.5.1	In the <b>United Kingdom</b> , a power supply cord with conductor of 1,25 mm <sup>2</sup> is allowed for equipment with a rated current over 10 A and up to and including 13 A.	For appliance inlet appliance, should be considered during national approval.	<b>N/A</b>
3.3.4	In the <b>United Kingdom</b> , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is:  • 1,25 mm <sup>2</sup> to 1,5 mm <sup>2</sup> nominal cross-sectional area.	For appliance inlet appliance, should be considered during national approval.	<b>N/A</b>
4.3.6	In the <b>United Kingdom</b> , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		<b>N/A</b>
4.3.6	In <b>Ireland</b> , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		<b>N/A</b>



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In <b>Finland, Norway and Sweden</b> TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that               <ul style="list-style-type: none"> <li>is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</li> <li>has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</li> <li>is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> </ul> </li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>	No such high touch current.	N/A
6.1.2.1 (A1:2010)	<p>In <b>Finland, Norway and Sweden</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul>	No TNV.	N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14;</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</li> </ul>	No TNV.	N/A
6.1.2.2	<p>In <b>Finland, Norway and Sweden</b>, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>	No TNV.	N/A
7.2	<p>In <b>Finland, Norway and Sweden</b>, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	Not connected to cable distribution system.	N/A
7.3	<p>In <b>Norway and Sweden</b>, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>	Not connected to cable distribution system.	N/A
7.3	<p>In <b>Norway</b>, for installation conditions see EN 60728-11:2005.</p>	Not connected to cable distribution system.	N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	A-DEVIATIONS (informative)		<b>P</b>
1.5.1	<b>Sweden</b> (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.	No switch provided.	<b>N/A</b>
1.5.1	<b>Switzerland</b> (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.	No switch provided.	<b>N/A</b>
1.7.2.1	<b>Denmark</b> (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: <div style="text-align: center;">             Vigtigt!              Lederen med grøn/gul isolation              må kun tilsluttes en klemme mærket   eller  </div> If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: “For tilslutning af de øvrige ledere, se medfølgende installationsvejledning.”	Appliance inlet used.	<b>N/A</b>
1.7.2.1	<b>Germany</b> (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.	Built-in equipment.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1 (A1:2010)	According to GPSG, section 2, clause 4:  If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.		<b>N/A</b>
1.7.5	<b>Denmark</b> (Heavy Current Regulations)  With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	No socket-outlet provided.	<b>N/A</b>
1.7.13	<b>Switzerland</b> (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries)  Annex 2.15 of SR 814.81 applies for batteries.	No battery provided.	<b>N/A</b>
5.1.7.1	<b>Denmark</b> (Heavy Current Regulations, Chapter 707, clause 707.4)  TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.	No such high touch current.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>FINLAND NATIONAL DIFFERENCES</b> Information technology equipment – Safety – PART 1: GENERAL REQUIREMENTS			
<b>Differences according to</b> ..... : EN 60950-1:2006/A11:2009/A1:2010			
<b>Attachment Form No.</b> ..... : FI_ND_IEC60950_1B			
<b>Attachment Originator</b> ..... : SGS Fimko Ltd			
<b>Master Attachment</b> ..... : Date (2010-04)			
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	<b>National Differences</b>		<b>P</b>
<b>General</b>	See also Group Differences (EN 60950-1:2006/A11/A1)		<b>P</b>
1.5.7.1	In <b>Finland</b> resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		<b>N/A</b>
1.5.9.4	In <b>Finland</b> , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		<b>N/A</b>
1.7.2.1	In <b>Finland</b> , CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.  The marking text in in Finland shall be as follows: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"	Appliance inlet used.	<b>N/A</b>
2.3.2	In <b>Finland</b> , there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	Should be evaluated during national approval.	<b>N/A</b>
2.10.5.13	In <b>Finland</b> , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	Should be evaluated during national approval.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	<p>In <b>Finland</b>, TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment:</p> <ul style="list-style-type: none"> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE A that <ul style="list-style-type: none"> <li>- is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and</li> <li>- has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and</li> <li>- is provided with instructions for the installation of that conductor by a SERVICE PERSON;</li> </ul> </li> <li>• STATIONARY PLUGGABLE EQUIPMENT TYPE B;</li> <li>• STATIONARY PERMANENTLY CONNECTED EQUIPMENT.</li> </ul>	Not such equipment.	N/A
6.1.2.1 (A1:2010)	<p>In <b>Finland</b>, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>- two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>- one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul> <p>Alternatively for components, there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>- passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and</li> <li>- is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.</li> </ul>	Not such equipment.	N/A


IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).</p> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>- the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14:2005 which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1;</li> <li>- the additional testing shall be performed on all the test specimens as described in EN 60384-14:2005;</li> <li>- the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14:2005, in the sequence of tests as described in EN 60384-14:2005.</li> </ul>	Not such equipment.	<b>N/A</b>
6.1.2.2	<p>In <b>Finland</b>, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>	Not such equipment.	<b>N/A</b>
7.2	<p>In <b>Finland</b>, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>	Not such equipment.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<p align="center"><b>ATTACHMENT TO TEST REPORT IEC 60950-1</b>  <b>FINLAND NATIONAL DIFFERENCES</b>          Information technology equipment – Safety –          PART 1: GENERAL REQUIREMENTS</p>			
Differences according to .....: EN 60950-1:2006/A12:2011			
Attachment Form No. ....: --			
Attachment Originator .....: --			
Master Attachment .....: --			
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	National Differences		P
1.3.Z1	Delete the addition of 1.3.Z1	Delete.	N/A
1.2.3	Delete the definition 1.2.3.Z1	Delete.	N/A
1.7.2.1	Delete NOTE Z1 and the addition for Portable Sound System	Delete.	N/A
--	<p>Add the following clause and annex to the existing standard and amendments</p> <p><b>Zx. Protection against excessive sound pressure from personal music players</b></p>	<p>Added.</p> <p>No such equipment.</p>	N/A
Zx.1	<p>A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause.</p> <p>The requirements in this sub-clause are valid for music or video mode only.</p> <p>The requirements do not apply:</p> <ul style="list-style-type: none"> <li>- while the personal music player is connected to an external amplifier; or</li> <li>- while the headphones or earphones are not used.</li> </ul> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> <li>- hearing aid equipment and professional equipment;</li> <li>analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015.</li> </ul> <p>For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.</p>		N/A



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
<b>Zx.2</b>	<p>No safety provision is required for equipment that complies with the following:</p> <ul style="list-style-type: none"> <li>- equipment provided as a package (personal music player with its listening device), where the acoustic output <math>L_{Aeq,T}</math> is <math>\leq 85</math> dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and</li> <li>- a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is <math>\leq 27</math> mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1.</li> </ul>		<b>N/A</b>
<b>Zx.3</b>	<p>The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:</p> <ul style="list-style-type: none"> <li>- the symbol of Figure 1 with a minimum height of 5 mm; and</li> <li>- the following wording, or similar:</li> </ul> <p><b>To prevent possible hearing damage, do not listen at high volume levels for long periods.</b></p>  <p>Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.</p>		<b>N/A</b>
<b>Zx.4</b>	Requirements for listening devices (headphones and earphones)		<b>N/A</b>
<b>Zx.4.1</b>	<p><b>Wired listening devices with analogue input</b></p> <p>With 94 dBA sound pressure output <math>L_{Aeq,T}</math>, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be <math>\geq 75</math> mV</p>		<b>N/A</b>
<b>Zx.4.2</b>	<p><b>Wired listening devices with digital input</b></p> <p>The acoustic output <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p>		<b>N/A</b>
<b>Zx.4.3</b>	<p><b>Wireless listening devices</b></p> <p>The acoustic output <math>L_{Aeq,T}</math> of the listening device shall be <math>\leq 100</math> dBA.</p>		<b>N/A</b>
<b>Zx.5</b>	<p><b>Measurement methods</b></p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.</p> <p>Unless stated otherwise, the time interval T shall be 30 s.</p>		<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences					
Clause	Requirement + Test		Result - Remark	Verdict	
APPENDIX	Australian National Differences according to CB Bulletin (AS/NZS 60950.1:2003+A1+A2+A3) (IEC Publication 60950-1:2001)			P	
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N/A=Not applicable. Placed in the column to the right.					
Annex ZZ Variations					
1.2	Between the definitions for "Person, service" and "Range, rated frequency" insert the following:  Potential ignition source 1.2.12.201		Inserted.	P	
1.2.12.15	After the definition of 1.2.12.15, add the following: 1.2.12.201 Potential ignition source:  Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA.  Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards.  NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a potential ignition source.  NOTE 202: This definition is from AS/NZS 60065:2003.		Added.	P	
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard."		Added.	P	
1.5.2	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard."		Should be evaluated during national approval.	N/A	
2.1	Delete the Note.		Deleted	P	
3.2.3	Delete Note 2.		Deleted	N/A	
3.2.5	Modify Table 3B as follows:		Replaced.	N/A	
	Rated current of equipment A	Nominal cross-sectional area mm2			AWG or kcmil (cross-sectional area in mm2) see note 2
	Over 0.2 up to and including 3	0.51)			18 [0.8]
	Over 3 up to and including 7.5	0.75			16 [1.3]
	Over 7.5 up to and including 10	(0.75)2) 1.00			16 [1.3]
	Over 10 up to and including 16	(1.0)3) 1.5			14 [2]

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Replace footnote 1) with the following:</p> <p>1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliances, and the entry to the plug does not exceed 2 m (0.5 mm<sup>2</sup> three-core supply flexible cords are not permitted; see AS/NZS 3191).</p> <p>Delete Note 1.</p>		
4.1	<p>Add the following after the last Paragraph of Clause 4.1:</p> <p>4.1.201 Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more,</p> <p>shall comply with the requirements for stability and mechanical hazards, including the</p> <p>additional stability requirements for television receivers, specified in AS/NZS 60065.</p>	No such device.	<b>N/A</b>
4.3.6	<p>Replace paragraph three with:</p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p>	Should be considered during national approval.	<b>N/A</b>
4.3.13.5	<p>Add the following to the end of the first paragraph:</p> <p>", or AS/NZS 2211.1"</p>	Added.	<b>P</b>
4.7	<p>Add the following paragraph:</p> <p>For alternative tests refer to clause 4.7.201.</p>	Added.	<b>P</b>
4.7.201	<p>Add the following after clause 4.7.3.6:</p> <p>4.7.201 Resistance to fire - Alternative tests</p>	Added.	<b>P</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.1	<p>General</p> <p>Parts of non-metallic material shall be resistant to ignition and spread of fire.</p> <p>This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following:</p> <p>Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NSZ 4695.707 and having openings only for the connecting wires filling the openings completely, and for the ventilation not exceeding 1 mm in width regardless of the length.</p> <p>The following parts which would contribute negligible fuel to a fire:</p> <p>small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings;</p> <p>small electrical components, such as capacitors with a volume not exceeding 1750 mm<sup>3</sup>, integrated circuits, transistors and optocoupler packages, if these components are mounted on material flammability category FV-1 or better according to AS/NZS 4695.707</p> <p>NOTE - In considering how to minimize propagation of fire and what "small parts" are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another.</p> <p>Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5.</p> <p>For the base materials of printed boards, compliance is checked by the test of 4.7.201.5.</p> <p>The tests shall be carried out on parts of non-metallic material, which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation, as they would be in normal use.</p> <p>These tests are not carried out on internal wiring.</p>	PCB, bobbin	<b>P</b>
4.7.201.2	<p>Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550 °C.</p> <p>Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of materials classified at least FH-3 according to ISO 9772 provided that the sample was not thicker than the relevant part.</p>	Metal enclosure.	<b>N/A</b>
4.7.201.3	Testing of insulating materials	PCB, bobbin.	<b>P</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>Parts of insulating materials supporting potential ignition sources shall be subject to the glow-wire test of AN/NZS 4695.2.11, which is carried out at 750 °C.</p> <p>The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection.</p> <p>NOTE - Contacts in components such as switch contacts are considered to be connections.</p> <p>For parts, which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested.</p> <p>The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications:</p> <p>5 Severities</p> <p>Replace with:</p> <p>The duration of application of the test flame shall be 30 s ± 1 s.</p> <p>8 Test procedure</p> <p>8.2 Modification:</p> <p>Replace the first sentence with:</p> <p>The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1.</p> <p>8.4 Modification:</p> <p>The first paragraph does not apply.</p> <p>Addition:</p> <p>If possible, the flame shall be applied at least 10 mm from a corner.</p> <p>8.5 Replacement:</p> <p>The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test.</p> <p>10 Evaluation of test results</p> <p>Replace with:</p> <p>The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.</p> <p>The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according</p>		

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
	to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.		
4.7.201.4	<p>Testing in the event of non-extinguishing material</p> <p>If parts, other than enclosures, do not withstand the glow-wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 is made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not to be tested.</p> <p>NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burring or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing.</p> <p>NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting in contact with or in close proximity to connections.</p>	Added.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201.5	<p>Testing of printed boards</p> <p>The base material of printed boards is subjected to needle-flame test to Clause 4.7.201.3. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm for a potential ignition source.</p> <p>The test is not carried out if the –</p> <p>Printed board does not carry any potential ignition source;</p> <p>Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the opening completely, or</p>	Added.	N/A
	<p>Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material printed boards supporting spark gaps which provide protection against overvoltages, is of flammability category FV-0 according to AS/NSZ 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires fill the openings completely.</p> <p>Compliance is determined using the smallest thickness of the material.</p> <p>NOTE - Available apparent power is the maximum apparent power, which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.</p>		
6.2.2	<p>Add the following after the first paragraph:</p> <p>In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2.</p> <p>Delete the note.</p>	No TNV.	N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	<p>Delete Note 2.</p> <p>Add the following after the first paragraph:</p> <p>In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700 µs impulses. The interval between successive impulses is 60 s and the initial voltage, <math>U_c</math>, is:</p> <ul style="list-style-type: none"> <li>- for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and</li> <li>- for 6.2.1b) and 6.2.1c): 1.5 kV.</li> </ul> <p>NOTE 201 - The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines.</p> <p>NOTE 202 – The 2.5 kV impulse for 6.2.1a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.</p>	No TNV.	N/A
6.2.2.2	<p>Delete the note.</p> <p>Add the following after the second paragraph:</p> <p>In Australia (this variation does not apply in New Zealand), the a.c. test voltage is:</p> <ul style="list-style-type: none"> <li>- for 6.2.1a): 3 kV; and</li> <li>- for 6.2.1b) and 6.2.1c): 1.5 kV.</li> </ul> <p>NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.</p> <p>NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.</p>	No TNV.	N/A
7.2	<p>Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>	Not connected to cable distribution system.	N/A
Annex M.2	<p>Delete the second and third equations and replace with:</p> $I_{TS1} = \frac{t_1 - 600}{600} \times \frac{I_p}{2\sqrt{2}} + \frac{1200 - t_1}{600} \times \frac{I_p}{\sqrt{2}} \quad \text{for } (600 \text{ ms} < t_1 < 1\,200 \text{ ms})$ $I_{TS1} = \frac{I_p}{2\sqrt{2}} \quad \text{for } (t_1 \geq 1\,200 \text{ ms})$	No TNV.	N/A



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex P	<p>Add the following Normative References to Annex P:</p> <p>IEC 60065, Audio, Video and similar electronic apparatus - Safety requirements</p> <p>AS/NZS 3112, Approval and test specification - Plugs and socket-outlets</p> <p>AS/NZS 3191, Approval and test specification - Electric flexible cords</p> <p>AS/NZS 4695.707, Fire hazard testing of electrotechnical products - Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source</p>	Added.	<b>P</b>
Annex ZZ.2	<p>Add the following after Clause 3.2.5.1:</p> <p>4.1.201 Add the following after the last Paragraph of Clause 4.1:</p> <p>4.1.201 Display devices used for television purposes</p> <p>Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.</p>	No such device.	<b>N/A</b>
	<p>Add the following after Clause 6.2.2.2:</p> <p>7.2 Add the following before the first paragraph:</p> <p>Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.</p>	Not connected to cable distribution system.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

## ATTACHMENT TO TEST REPORT IEC 60950-1 CANADA NATIONAL DIFFERENCES

Information technology equipment – Safety –

### PART 1: GENERAL REQUIREMENTS

**Differences according to .....**: CAN/CSA C22.2 No. 60950-1-07

### SPECIAL NATIONAL CONDITIONS

The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part I and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations

1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	<b>P</b>
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	<b>P</b>
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.  For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		<b>N/A</b>
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.  A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		<b>N/A</b>
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No such fuse used.	<b>N/A</b>
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.  Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such components provided.	<b>N/A</b>
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		<b>P</b>
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Appliance inlet used, no power cord provided.	<b>N/A</b>
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	Not such equipment.	<b>N/A</b>
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Equipment is not permanent connection type	<b>N/A</b>
3.2.5	Power supply cords are required to be no longer than 4.5 m in length.  Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.	No power cords provided.  Shall be considered during national approval.	<b>N/A</b>
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	Not such equipment.	<b>N/A</b>
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	No such terminals provided.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).	No such screws provided.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	No such terminals provided.	N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	Equipment is not such a device.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No such devices incorporated.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not such an application.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No liquids provided.	N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	No laser provided.	N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such an application.	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	Not such an application.	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	No ionizing radiation.	N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

### OTHER DIFFERENCES

The following key national differences are based on requirements other than national regulatory requirements

1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include:  attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	Shall be evaluated during national approval. Others see IEC 60950-1 test report for further details.	N/A
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	No such circuit.	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuits.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV circuits.	N/A
2.6.3.3	The current rating of the circuit shall be taken as 20 A not 16 A		P

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.	Considered.	<b>P</b>
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	<b>N/A</b>
4.3.2	Equipment with handles is required to comply with special loading tests.	No handle on equipment.	<b>N/A</b>
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuits.	<b>N/A</b>
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded.  During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	Considered.	<b>P</b>
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuits.	<b>N/A</b>
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits.	<b>N/A</b>
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No such equipment.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

APPENDIX	Chinese National Differences according to CB Bulletin (GB4943-2001) (IEC Publication 60950:1999)		<b>P</b>
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#### EXPLANATION FOR ABBREVIATIONS

P=Pass, F=Fail, N/A=Not applicable.

1.4.5	If the equipment is intended for direct connection to an AC MAINS SUPPLY, the tolerances on RATED VOLTAGE shall be taken as +10 % and –10 %,unless:	Considered.	<b>P</b>
1.7.1	When single rated voltage is given, it should be marked 220 V; when a rating range is given, the voltage range shall have a hyphen (-) between the minimum and maximum RATED VOLTAGES and should cover 220 V; When multiple RATED VOLTAGES or RATED VOLTAGE RANGES are given, they shall be separated by a solidus (/) and one of them must be 220 V and also factory default setting should be 220 V.  RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or cover 50Hz, unless the equipment is designed for d.c. only;	The input voltage range is 100-240V or 200-240Vac.	<b>P</b>
1.7.12	Instructions and equipment marking related to safety shall be written in simplified Chinese in which the equipment is to be installed.	Should be considered during national approval.	<b>N/A</b>
3.2.1	Plugs of apparatus which are intended for the connection of the mains supply should comply with requirements of GB1002.	Appliance inlet used.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict

<b>ATTACHMENT TO TEST REPORT IEC 60950-1</b> <b>ISRAEL NATIONAL DIFFERENCES</b> Information technology equipment – Safety –			
PART 1: GENERAL REQUIREMENTS			
Differences according to .....: SI 60950 Part 1			
1.1.1	Replace the the text of Note 3 as follows:  The requirements of Israel Standard SI 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment.	Not such equipment.	<b>N/A</b>
1.6	The clause is applicable with the following addition:		<b>P</b>
1.6.1	Add following note:  In Israel, this clause is applicable subject to the Electricity Law, 1954, its regulations and revisions.		<b>P</b>
1.7	The clause is applicable with the following additions:  Subclause 1.7.201 shall be added at the beginning of the clause as follows:	Added.	<b>P</b>
1.7.201	Marking in the Hebrew language  The marking in the Hebrew language shall be in accordance with the Consumer Protection Order (Marking of goods), 1983.  In addition to the marking required by clause 1.7.1, the following details shall be marked in the Hebrew language.  The details shall be marked on the apparatus or on its package, or on a label properly attached to the apparatus or on the package, by bonding or sewing, in a manner that the label cannot be easily removed.  1. Name of the apparatus and it commercial designation;  2. Manufacturer's name and address. If the apparatus is imported, the importer's name and address;  3. Manufacturer's registered trademark, if any;  4. Name of the model and serial number, if any;  5. Country of manufacture.	Should be considered during national approval.	<b>N/A</b>
1.7.2.1	The following shall be added to the clause:  All the instructions and warnings related to safety shall also be written in the Hebrew language.	Should be considered during national approval.	<b>N/A</b>



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2	The clause is applicable with the following additions:		<b>P</b>
2.9.4	<p>The following shall be added at the beginning of the clause:</p> <p>In Israel, according to the Electricity Law, 1954, and the Electricity Regulations (Earthing and means of protection against electricity of voltages up to 1,000V) 1991, seven means of protection against electrocution are permitted, as follows:</p> <ol style="list-style-type: none"> <li>1) TN-S - Network system earthing; TN-C-S - Network system earthing;</li> <li>2) TT - Network system earthing;</li> <li>3) IT - Network Insulation Terre;</li> <li>4) Isolated transformer;</li> <li>5) Safety extra low voltage (SELV or ELV);</li> <li>6) Residual current circuit breaker (30 mA = I<sub>Δ</sub>);</li> <li>7) Reinforced insulation; Double insulation (class II)</li> </ol>		<b>P</b>
2.201	<p>Prevention of electromagnetic interference</p> <p>- Prior to carrying out the tests in accordance with the clauses of this Standard, the compliance of the apparatus with the relevant requirements specified in the appropriate part of the Standard series, SI 961, shall be checked.</p> <p><u>The apparatus shall meet the requirements in the appropriate part of the Standard series, SI 961.</u></p> <p>- If there are components in the apparatus for the prevention of electromagnetic interference, these components shall not reduce the safety level of the apparatus as required by this Standard.</p>	Should be considered during national approval.	<b>N/A</b>
3	The clause is applicable with the following additions:	Added.	<b>P</b>
3.2.1.1	<p>Connection to an a.c. mains supply</p> <p>After the note, the following note shall be added:</p> <p>Note:</p> <p>In Israel, the feed plug shall comply with the requirements of Israel Standard SI 32 Part 1.1.</p>	Appliance inlet used.	<b>N/A</b>
3.2.1.2	<p>Connection to a d.c. mains supply</p> <p>At the end of the first paragraph, the following note shall be added:</p> <p>Note:</p> <p>At the time of issue of this Standard, there is no Israel Standard for connection accessories to d.c.</p>		<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
Annex P	Normative references (List of relevant Israel Standards that have been inserted in place of some of the International Standards)		<b>P</b>


IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
<b>J 60950-1 (H22) : 2009 TEST REPORT</b> (Deviations from IEC 60950-1:2001, first edition) Special National conditions, National deviation and other information according to MITI Ordinance No. 85. <u>Japanese unique deviations</u> in J60950-1(H22):2009(=JIS C 6950-1:2009)			
1.2.4.1	Add the following new notes.  Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.	Should be considered during national approval.	<b>N/A</b>
1.2.4.3A	Add the following new clause. <b>1.2.4.3A CLASS 0I EQUIPMENT</b> Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: <ul style="list-style-type: none"> <li>- using BASIC INSULATION, and</li> <li>- providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring.</li> </ul> NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation. circuit.	Built in equipment, should be considered during national approval.	<b>N/A</b>
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.  Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.	Built in equipment, should be considered during national approval.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	<p>Replace the first paragraph with the follows:</p> <p>Where safety is involved, components shall comply either with the requirements of this standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1.</p> <p>Replace Note 1 with the following:</p> <p>Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.</p>	Considered	<b>P</b>
1.5.2	<p>Replace first sentence in the first dashed paragraph with the following:</p> <ul style="list-style-type: none"> <li>- a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating.</li> </ul> <p>Add a note after the first dashed paragraph as follows:</p> <p>Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A.</p> <p>Replace first sentence in the third dashed paragraph as follows:</p> <ul style="list-style-type: none"> <li>- where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.</li> </ul>	Considered	<b>P</b>
1.7.1	<p>Replace fifth dashed paragraph with the following:</p> <ul style="list-style-type: none"> <li>- manufacturer's or responsible company's name or trade-mark or identification mark;</li> </ul>	Should be considered during national approval.	<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.5.A	<p>Add the following new clause. after 1.7.5</p> <p>1.7.5A Appliance Coupler</p> <p>If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction.</p> <p>“ Use only designated cord set attached in this equipment”</p>		<b>N/A</b>
1.7.12	<p>Replace first sentence with the following:</p> <p>Instructions and equipment marking related to safety shall be in Japanese..</p>	Should be evaluated during national approval.	<b>N/A</b>
1.7.17A	<p>Add the following new clause. after 1.7.17</p> <p>1.7.17A Marking for CLASS 0I EQUIPMENT</p> <p>For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body:</p> <p>“Provide an earthing connection”</p> <p>Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions:</p> <p>“Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”</p>	Appliance inlet used.	<b>N/A</b>
2.6.3.2	<p>Add the following after 1st paragraph.</p> <p>This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.</p>	Appliance inlet used.	<b>N/A</b>
2.6.4.2	<p>Replace 1st paragraph with the following.</p> <p>Equipment required to have protective earthing shall have a main protective earthing terminal.</p> <p>For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.</p>	Appliance inlet used.	<b>P</b>
2.6.5.4	<p>Replace 1st sentence with the following.</p> <p>Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:</p>		<b>P</b>

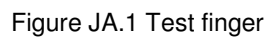
IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.8A	<p>Add the following new clause. after 2.6.5.8A</p> <p>2.6.5.8A Earthing of CLASS 0I EQUIPMENT</p> <p>Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V.</p> <p>For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip.</p> <p>CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.</p>	Appliance inlet used.	<b>N/A</b>
3.2.3	<p>Add the following after Table 3A:</p> <p>Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.</p>	Not permanently connected	<b>N/A</b>
3.2.5.1	<p>Add the following to the last of first dashed paragraph.</p> <p>Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance..</p> <p>Add the following to the last of second dashed paragraph.</p> <p>Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance..</p> <p>Delete 1) in Table 3B.</p>	Appliance inlet equipment, should be considered during national approval.	<b>N/A</b>
3.3.4	<p>Add the following note to Table 3D:</p> <p>Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.</p>		<b>N/A</b>
3.3.7	<p>Add the following after the first sentence:</p> <p>This requirement is not applicable to the external earthing terminal of Class 0I equipment.</p>	Class I	<b>N/A</b>
4.3.4	<p>Add the following after the first sentence:</p> <p>This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.</p>		<b>N/A</b>
5.1.3	<p>Add a note after the first paragraph as follows:</p> <p>Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is conducted using the test circuit from IEC 60990, figure 13.</p>		<b>N/A</b>

IEC60950_1B – ATTACHMENT – National Differences					
Clause	Requirement + Test		Result - Remark		Verdict
5.1.6 Table 5A	Replace Table 5A of this Sub-Clause by:		Replaced.		P
	Table 5A – Maximum current				
	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. <sup>1)</sup>	Maximum PROTECTIVE CONDUCTOR CURRENT	
	ALL equipment	Accessible parts and circuits not connected to protective earth	0,25	-	
	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	
	Movable (Other Than Hand-Held, But Including Transportable Equipment)		3,5	-	
	Stationary, Pluggable Type A		3,5	-	
	ALL other STATIONARY EQUIPMENT not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3,5	-	
			-	5 % of input current	
	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-	
	Others		1,0	-	
	<sup>1)</sup> If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.				
7.2	Add the following after the paragraph:  However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply:  – the circuit under consideration is a TNV-1 CIRCUIT; and  – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and  – the screen of the coaxial cable is intended to be connected to earth in the building installation.				N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
W.1	<p>Replace second and third sentence in the first paragraph with the following:</p> <p>This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.</p>	Class I	<b>N/A</b>
Annex JA	<p>Add Annex JA (Document shredding machines)</p> <p>Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more.</p>	Added. Not Document shredding machines.	<b>N/A</b>
JA.1	<p><b>Markings and instructions</b></p> <p>In the easily visible part near the document-slot, by a method capable to make out clearly and not easily disappeared, and by easily understandable wording, shall indicate the symbol of;</p>  <p>and, also the following precautions for use;</p> <p>that use by an infant/child may cause a hazard of injury etc.;</p> <p>that a hand can be drawn into the mechanical section for shredding when touching the document-slot;</p>	Added. Not Document shredding machines.	<b>N/A</b>



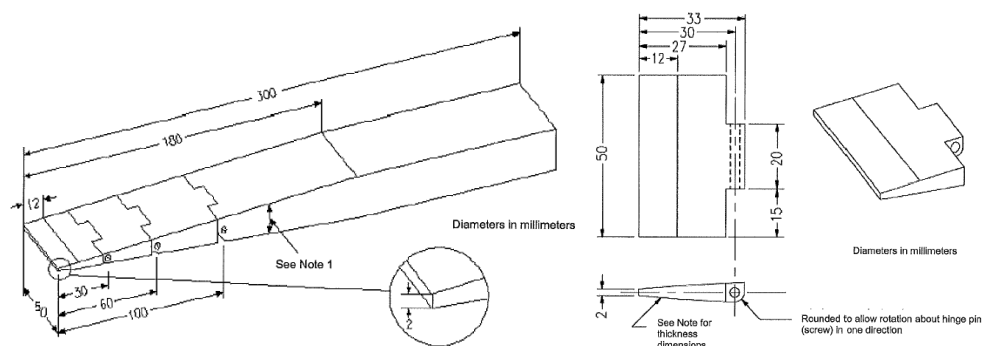
Clause	Requirement + Test	Result - Remark	Verdict
	that clothes can be drawn into the mechanical section for shredding when touching the document-slot; that hairs can be drawn into the mechanical section for shredding when touching the document-slot; in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas.		
JA.2	<p><b>INADVERTENT REACTIVATION</b></p> <p>Any safety interlock which can be operated by means of the test finger, Figure JA.1, is considered to cause reactivation of the hazard.</p> <p>Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1.</p>	Added. Not Document shredding machines.	<b>N/A</b>



IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement + Test	Result - Remark	Verdict
JA.3	<p><b>ISOLATING SWITCH</b></p> <p>Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.</p> <p>If two-position switch, the positions for “ON” and “OFF” shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for “OFF” shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols.</p> <p>Compliance is checked by inspection.</p>	Added. Not Document shredding machines.	N/A
JA.4	<p><b>PROTECTION IN OPERATOR ACCESS AREAS</b></p> <p>Any warning shall not be used instead of the structure for preventing access to hazardous moving parts.</p> <p>Document shredding machines shall comply with the following requirements.</p> <p>Push the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying additional force. It shall not be possible to touch hazardous moving parts with the test finger. The document shredding machine is installed as intended, and all face of MECHANICAL ENCLOSURES are subjected to this test. Before testing with the test finger, remove the parts detachable without a tool.</p> <p>Push the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe shall not influence the test. Before testing with the test finger, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.</p>	Added. Not Document shredding machines.	N/A

IEC60950\_1B – ATTACHMENT – National Differences

Clause	Requirement + Test	Result - Remark	Verdict
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(Details of the top of wedge)

Distance from the top	Thickness of probe
0	2
12	4
180	24

Note 1 - The probe shall be of changing the thickness linearly. However, the slope shall be changed at the respective points shown in the table.

Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.

Figure JA.2 Wedge-probe

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulletin (K 60950-1)		P
EXPLANATION FOR ABBREVIATIONS			
P=Pass, F=Fail, N/A=Not applicable. Placed in the column to the right.			
1.5.101	Addition:  Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Appliance inlet used.	N/A
8	Addition: EMC  The apparatus shall comply with the relevant CISPR standards.	To be evaluated in the national approval.	N/A

IEC60950_1B – ATTACHMENT – National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	US National Differences according to CB Bulletin		<b>P</b>
EXPLANATION FOR ABBREVIATIONS			
P=Pass, F=Fail, N/A=Not applicable. Placed in the column to the right.			
SPECIAL NATIONAL CONDITIONS BASED ON FEDERAL REGULATIONS			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	<b>P</b>
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		<b>P</b>
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type specified in the NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.		<b>N/A</b>
	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Single phase.	<b>N/A</b>
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No fuse used for LPS.	<b>N/A</b>
	Suitable NEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such device.	<b>N/A</b>
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC.		<b>P</b>
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Appliance inlet used. No power supply cords provided and should be evaluated during national approval.	<b>N/A</b>

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Clause	Requirement – Test	Result – Remark	Verdict
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		<b>N/A</b>
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Not permanent connection equipment.	<b>N/A</b>
3.2.5	Power supply cords are required to be no longer than 4.5 m in length and minimum length shall be 1.5 m. Flexible power supply cords are required to be compatible with Article 400 of the NEC.	No power cord provided.	<b>N/A</b>
	Permanently connected equipment must have a suitable wiring compartment and wire bending space.	Not permanent connection equipment.	<b>N/A</b>
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm <sup>2</sup> ).	No terminals for permanent wiring.	<b>N/A</b>
3.3.4	Terminals for permanent wiring, including protective earthing terminals, must be suitable for U.S wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	Inlet used.	<b>N/A</b>
	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	No motor.	<b>N/A</b>
	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	Built in equipment, should be considered end system.	<b>N/A</b>
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Not computer room applications.	<b>N/A</b>
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquid stored.	<b>N/A</b>
4.3.13.5	Equipment with lasers is required to meet the Code of Federal Regulations 21 CFR 1040.	No laser.	<b>N/A</b>

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Clause	Requirement – Test	Result – Remark	Verdict
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m <sup>3</sup> (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not information storage systems.	<b>N/A</b>
	For computer room applications, enclosures with combustible material measuring greater than 0.9 m <sup>2</sup> (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	No such enclosure.	<b>N/A</b>
Annex H	Equipment that produces ionizing radiation must comply with Federal Regulations, 21 CFR 1020	No ionizing radiation.	<b>N/A</b>
OTHER NATIONAL DIFFERENCES			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	(see appended table 1.5.1)	<b>P</b>
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage it to include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.	No DC mains supply.	<b>N/A</b>

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Clause	Requirement – Test	Result – Remark	Verdict
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V <sub>peak</sub> or 60 V <sub>d.c.</sub> , the max. acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV.	<b>N/A</b>
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	No TNV.	<b>N/A</b>
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		<b>P</b>
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	<b>N/A</b>
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.	No such equipment.	<b>N/A</b>
	Equipment with handles is required to comply with special loading tests.	No handles.	<b>N/A</b>
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV.	<b>N/A</b>
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		<b>P</b>
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No such equipment.	<b>N/A</b>
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No such equipment.	<b>N/A</b>



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Clause	Requirement – Test	Result – Remark	Verdict
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No such equipment.	<b>N/A</b>
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).	No such equipment.	<b>N/A</b>